

**Competency-Based Dynamic Curriculum for MD/MS SIDDHA
(PRESCRIBED BY NCISM)**

தொட்டனைத் தூறும் மணற்கேணி மாந்தர்க்குக் கற்றனைத் தூறும் அறிவு

**Semester III-VI
Pothu Maruthuvam
(General Medicine)
(SUBJECT CODE : SIDPG-M)**

(Applicable from 2024-25 batch, from the academic year 2025-26 onwards until further notification by NCISM)



**BOARD OF UNANI, SIDDHA AND SOWA-RIGPA
NATIONAL COMMISSION FOR INDIAN SYSTEM OF MEDICINE
NEW DELHI-110026**

PREFACE

The Siddha System of medicine is a rich and ancient tradition that focuses on promoting physical and psychological well-being, with an emphasis on preventing illness and ensuring longevity of life. It offers a holistic approach to healthcare that incorporates traditional wisdom with modern scientific advancements.

The postgraduate syllabus in Siddha medicine has been carefully crafted to provide students with a comprehensive understanding of the various aspects of this ancient healing tradition. Students will delve deep into the teachings of the Siddhars, exploring texts such as the Thirumandiram and gaining a more profound understanding of key concepts like Iyum Bootham, Mukkutram, Suvai, and Veeriyam. By studying these principles, students will learn how to choose the right herbs and treatments for different diseases, drawing on the wisdom of the Siddhars to craft personalized medicine plans for their patients. In addition to theoretical knowledge, students will also receive practical training in Siddha diagnostic methods, including Envagai thervu, and will learn how to diagnose and treat common ailments such as Vali, Azhal, and Iyam imbalances.

Clinical case studies will provide real-world examples of how Siddha medicine can be applied in practice, helping students to develop the skills they need to become competent practitioners in the field. Furthermore, the syllabus also covers topics such as pharmacology, personalized medicine, and healthcare management, equipping students with the knowledge and skills they need to succeed in a rapidly evolving healthcare landscape. As Siddha medicine continues to gain recognition and acceptance, graduates of this program will be well-positioned to make a positive impact in the field, whether as practitioners, researchers, educators, or entrepreneurs.

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We want that education by
which character is formed,
strength of mind is increased,
the intellect is expanded, and by
which one can stand on one's
own feet.

-Swami Vivekananda

NCISM

(NATIONAL COMMISSION FOR INDIAN SYSTEM OF MEDICINE)

Competency-Based Dynamic Curriculum MD/ MS SIDDHA

Pothu Maruthuvam (SIDPG-M)

Summary & Credit Framework

Semester III-VI

Module Number & Name	Credits	Notional Learning Hours	Maximum Marks of assessment of modules (Formative Assessment)
Semester No : 3			
Paper No : 1 (Principles and Practice of Siddha Maruthuvam - Vali Noigal and Putru Noi (Siddha Oncology))			
M1 General consideration of Vali Noigal on the basis of Siddha Principles	2	60	50
M2 Vali Noigal pertaining to Heart, Vessels & Head; Psychosomatic disorder, Soolai, Sanni and Mayakkam	2	60	50
Paper No : 2 (Principles and Practice of Siddha Maruthuvam - Azhal and Iya Noigal)			
M9 General considerations of Azhal and Iya diseases on the basis of Siddha System of Medicine	2	60	50
M10 Kuruthi Azhal and Respiratory system diseases related to Azhal and Iyam	2	60	50
Paper No : 3 (Siddhar Maruthuvam with Applied Pharmacotherapeutics)			
M17 Essentials of Traditional Siddha therapeutics	2	60	50
M18 Basic concepts of Siddha therapeutics	2	60	50
Paper No : 4 (Recent Advances in Medicine)			
M25 Emergency Medicine & Respiratory Medicine	2	60	50
M26 Cardiology	2	60	50
Total	16	480	400
Semester No : 4			

Paper No : 1 (Principles and Practice of Siddha Maruthuvam - Vali Noigal and Putru Noi (Siddha Oncology))			
M3 Vali Noigal pertaining to Nervous system	3	90	75
M4 Vali Noigal pertaining to Ear, Nose, Throat & Oral cavity	1	30	25
Paper No : 2 (Principles and Practice of Siddha Maruthuvam - Azhal and Iya Noigal)			
M11 Azhal Noigal – 42 ,Haematology and Hepato biliary system diseases related to Azhal	3	90	75
M12 Iya Noigal related to Haematology, Vikkal and Naalamilla surapi noigal (Endocrine diseases)	1	30	25
Paper No : 3 (Siddhar Maruthuvam with Applied Pharmacotherapeutics)			
M19 Types of Internal medicines and its description	2	60	50
M20 Biotransformation of Siddha Medicines	2	60	50
Paper No : 4 (Recent Advances in Medicine)			
M27 Diseases of Respiratory System	2	60	50
M28 Haematology and nutritional deficiencies	2	60	50
Total	16	480	400
Semester No : 5			
Paper No : 1 (Principles and Practice of Siddha Maruthuvam - Vali Noigal and Putru Noi (Siddha Oncology))			
M5 Vali Noigal pertaining to Bones, Joints and Connective tissues.	2	60	50
M6 Vali Noigal pertaining to Uro-Genital system & Skin	2	60	50
Paper No : 2 (Principles and Practice of Siddha Maruthuvam - Azhal and Iya Noigal)			
M13 Renal disorders related to Azhal , Newly emerging viral infections and infectious diseases	2	60	50
M14 Renal disorders related to Iyam and Handling Emergency in Siddha System of Medicine	2	60	50
Paper No : 3 (Siddhar Maruthuvam with Applied Pharmacotherapeutics)			
M21 Essentials of Peru marunthugal (Siddha Higher order Medicines and Vallathy Maruthuvam)	2	60	50
M22 General Pharmacology	2	60	50
Paper No : 4 (Recent Advances in Medicine)			
M29 Rheumatology and Endocrinology	2	60	50
M30 Infectious Diseases, Nephrology and Reproductive system	2	60	50
Total	16	480	400

Semester No : 6			
Paper No : 1 (Principles and Practice of Siddha Maruthuvam - Vali Noigal and Putru Noi (Siddha Oncology))			
M7 Vali Noigal pertaining to Abdomen	2	60	50
M8 Siddha Oncology	2	60	50
Paper No : 2 (Principles and Practice of Siddha Maruthuvam - Azhal and Iya Noigal)			
M15 Gastro Intestinal diseases related to Azhal	2	60	50
M16 Iya Noigal – 21 and Gastro intestinal diseases related to Iyam	2	60	50
Paper No : 3 (Siddhar Maruthuvam with Applied Pharmacotherapeutics)			
M23 Systemic Pharmacology	2	60	50
M24 Experimental and Clinical Pharmacology	2	60	50
Paper No : 4 (Recent Advances in Medicine)			
M31 Gastrointestinal disorders	2	60	50
M32 Oncology & Geriatrics	2	60	50
Total	16	480	400
Grand Total	64	1920	1600

Credit frame work

SIDPG-M consists of 32 modules totaling 64 credits, which correspond to 1920 Notional Learning Hours. Each credit comprises 30 hours of learner engagement, distributed across teaching, practical, and experiential learning in the ratio of 1:2:3. Accordingly, one credit includes 5 hours of teaching, 10 hours of practical training, 13 hours of experiential learning, and 2 hours allocated for modular assessment, which carries 25 marks.

Important Note: The User Manual MD/MS Siddha is a valuable resource that provides comprehensive details about the curriculum file. It will help you understand and implement the curriculum. Please read the User Manual before reading this curriculum file. The curriculum file has been thoroughly reviewed and verified for accuracy. However, if you find any discrepancies, please note that the contents related to the MSE should be considered authentic. Each paper has 16 credits and each semester covers 16 credits across 4 papers. In case of difficulty and questions regarding the curriculum, write to syllabus24sid@ncismindia.org.

Credit Analysis Overview					
Sem/Paper	Paper No 1	Paper No 2	Paper No 3	Paper No 4	Credits
Semester 3	M-1 2 Crs M-2 2 Crs	M-9 2 Crs M-10 2 Crs	M-17 2 Crs M-18 2 Crs	M-25 2 Crs M-26 2 Crs	16
Semester 4	M-3 3 Crs M-4 1 Crs	M-11 3 Crs M-12 1 Crs	M-19 2 Crs M-20 2 Crs	M-27 2 Crs M-28 2 Crs	16

Semester 5	M-5 2 Crs M-6 2 Crs	M-13 2 Crs M-14 2 Crs	M-21 2 Crs M-22 2 Crs	M-29 2 Crs M-30 2 Crs	16
Semester 6	M-7 2 Crs M-8 2 Crs	M-15 2 Crs M-16 2 Crs	M-23 2 Crs M-24 2 Crs	M-31 2 Crs M-32 2 Crs	16
Credits	16	16	16	16	64

Semester VI University examination					
Theory			Practical*		
Paper	Marks	Total	Practical Heads	Marks	Total
Paper -1	100	400	Long case or procedure/Major practical as applicable	100	400
			Short case or procedure/Minor practical	50	
Paper -2	100		Spotters	50	
			Assessing teaching ability	25	
Paper -3	100		Assessing presentation skills	25	
			# Viva (4 examiners: 25 marks/each examiner)	100	
Paper -4	100		Logbook (Activity record)	25	
			Practical/Clinical Record	25	
Semester VI University examination – 800 Marks					

* Details in 6H table, #No separate marks for dissertation viva.

Course Code and Name of Course

Course code	Name of Course
SIDPG-M	Pothu Maruthuvam (General Medicine)

Table 1 : Course learning outcomes and mapped Program learning outcomes

CO No	A1 Course learning Outcomes (CO) SIDPG-M At the end of the course SIDPG-M, the students should be able to-	B1 Course learning Outcomes mapped with program learning outcomes.
CO1	Demonstrate the Siddha principles and concepts with contemporary sciences and advancements for scientific explorations.	PO1,PO4,PO5
CO2	Describe elaborately the diseases which comes under Vali, Azhal, Iyam from various ancient Siddha text references and plan the line of treatment to contribute sustainable and holistic health care solutions by applying Siddha principles in global health care perspectives.	PO1,PO2,PO3
CO3	Demonstrate a broad understanding of investigation, diagnosis and treatment of prevalent acute and chronic medical conditions based on Siddha basic principles along with the contemporary methodical and technological advances in medicine and Emergency management in Siddha.	PO1,PO2,PO4,PO5,P O6
CO4	Prescribe evidence-based medicine confidently by learning internal and external Siddha medicines with special emphasis on higher order medicines and choose the medicines in a personalised approach, based on siddha basic principles and pharmaco-therapeutics of the drug through integrated scholarly innovations for understanding and expansion of siddha medicine globally.	PO2,PO4,PO7
CO5	Recommend suitable dietary advice, life style modifications, pranayamam and yogasanas for prevention, management and rehabilitation of the diseases, promotion of well-being, facilitating the reach of health program benefits to public by educating them and maintaining medical records.	PO2,PO3,PO5
CO6	Apply fundamental knowledge on Pharmacodynamics and pharmacokinetics for clinical evaluation of Siddha formulations, Siddha genomics and apply updated knowledge in research studies.	PO4,PO5,PO7
CO7	Demonstrate professionalism and ethics, collaborate with health care teams, translate the Siddha ancient literatures including manuscripts contribute to medical education and scholarship, entrepreneurship skills.	PO2,PO4,PO5,PO6,P O7,PO8

Table 2 : Course contents (Modules- Credits and Notional Learning Hours)

Paper No : 1 (Principles and Practice of Siddha Maruthuvam - Vali Noigal and Putru Noi (Siddha Oncology))						
Semester No : 3						
2A Modu le Nu mber	2B Modules & units	2C Num ber of Credi ts	Notional Learning hours			
			2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
1	M-1 General consideration of Vali Noigal on the basis of Siddha Principles This module deals with the comprehensive knowledge of general consideration of <i>Vali Noigal</i> on the basis of Siddha Principles including the basic functioning and pathological changes of <i>Vali thathu</i>, common diagnostic principles, common cause and classification for <i>Vali Noigal</i> by various Siddhars like <i>Yugi</i>, <i>Kumbamuni</i>, <i>Pulipani</i> and others. • M1U1 Basic functioning and pathological changes of Vali humour. 1.1.1. <i>Vaazhumidam</i> (Predominant location), <i>Vadivam</i> (Shape), <i>Thanmaigal</i> (Properties), <i>Vagaigal</i> (Types) and <i>Thozhil</i> (function) of Vali humour 1.1.2. Illustration the features of <i>Vali thathu</i> including <i>Migu gunam</i> (augmenting features), <i>Kurai gunam</i> (diminishing features), <i>Thannilai valarchi</i> (Insitu escalation), <i>Vetrunilai valarchi</i> (Ectopic escalation) and <i>Thannilai adaithal</i> (Restitution).	2	10	20	30	60

1.1.3. *Vali vanmai adaiyum pothu undagum gunangal* (Qualities due to thriving *Vali*) & *Vanmai adaintha valikuttrathai neekum gunangal* (Antagonistic qualities to balance the thrived *Vali*),

1.1.4. Role of *Vali thathu* in derangement of *14 Vegangal* (Natural urges),

1.1.5. General outward appearance of *Vali* in physiological and pathological state,

1.1.6. Disclosure of *Vali* in five *kosams*.

1.1.7. Relation with diet and seasonal variations.

• **M1U2 Common diagnostic principles of Vali Noigal.**

1.2.1. Physical examination based on manifestations of deranged *Vali* in *Udal thathukkal* (Physical Constituents) & 96 *thathuvas*.

1.2.2. *Envagai thervu* (Siddha diagnostic tools)

1.2.3. *Neerkuri, Neikuri* (Character of Urine, Nature of froth in *Vali* deranged urine)

1.2.4. *Naadi* (Pulse reading)

1.2.5. *Saathiya & Asaathiya* features etc.

	• M1U3 Introduction to Vali Noigal in general 1.3.1. <i>Uruppugalai patri varum Vali Noigal</i> (Organs wise manifestations of <i>Valikuttram</i>), 1.3.2. <i>Noi varum vazhi</i> (Causes), <i>Noi undagum vitham</i> (Pathogenesis), <i>Murkurigunangal</i> (Premonitory symptoms), <i>Kurigunangal</i> (Symptoms & Signs), <i>Noi kanikkum muraigal</i> (Diagnostic principles), <i>Noiyinpokku</i> (Prognosis), <i>Maruthuva Vazhimurai</i> (Line of treatment) and <i>Pathiyam</i>. 1.3.3. Detailed literature review of classifications mentioned by various Siddhars and comparative study with other contemporary systems of medicine.					
2	M-2 Vali Noigal pertaining to Heart, Vessels & Head; Psychosomatic disorder, Soolai, Sanni and Mayakkam This module deals with the comprehensive knowledge of <i>Vali Noigal</i> pertaining to Heart, Vessels & Head; Psychosomatic disorder, <i>Soolai, Sanni and Mayakkam</i> including the comparative study mentioned by various Siddhars, application of Siddha diagnostic principles & contemporary medical techniques to determine the diagnosis and various therapeutic approaches & procedural management. • M2U1 Vali Noigal pertaining to Heart & Vessels, Psychosomatic disorder Subunits of this unit has to be dealt in following details: 1. Common characteristic features of <i>Vali Noigal</i> pertaining to Heart & Vessels Psychosomatic disorder, <i>Vagaigal</i> (Types) mentioned by <i>Yugi, Kumbamuni</i> and other	2	10	20	30	60

Siddhars, *Noi Varum Vazhi* (Etiopathogenesis), *Noi Kurigunangal* (Clinical features) of individual type, *Noi kanippu* (Diagnosis) and *Noyinpokku* (Prognosis) based on Siddha and Modern investigatory and Clinical methods, *Maruthuva Vazhimurai* (Specific line of treatment).

2. Details of Siddha therapeutics from various references including Internal and External medicines.

3. Rational use of Therapeutics, *Pathiyam*, Prevention & Health education, National Health campaigns of AYUSH and components under NRHM, Review on Clinical Research papers.

2.1.1. *Thamaraga vayu*

2.1.2. *Aaguni vatham*

2.1.3. *Oorthuva vatham*

2.1.4. *Vasanavatham*

• **M2U2 Vali Noigal pertaining to Head**

Subunits of this unit has to be dealt in following details:

1. Common characteristic features of *Vali Noigal* pertaining to Head, *Vagaigal* (Types) mentioned by *Yugi*, *Kumbamuni* and other Siddhars, *Noi Varum Vazhi* (Etiopathogenesis), *Noi Kurigunangal* (Clinical features) of individual type, *Noi kanippu* (Diagnosis), *Noyinpokku* (Prognosis) based on Siddha and Modern investigatory and Clinical methods, *Maruthuva Vazhimurai* (Specific line of treatment).

2. Details of Siddha therapeutics from various references including Internal and External medicines.

3. Rational use of Therapeutics, *Pathiyam*, Prevention & Health education, National Health campaigns of AYUSH and components under NRHM, Review on Clinical

	Research papers. 2.2.1. <i>Netrisoolai vatham</i> 2.2.2. <i>Nethra powthra vatham</i> 2.2.3. <i>Vatha thalai nokkadu</i> 2.2.4. <i>Suriyavartha nokkadu</i> 2.2.5. <i>Oruthalaiyin vartham</i> • M2U3 Soolai, Sanni & Mayakkam Epidemiology, <i>Iyal</i> (Definition), <i>Verupeyargal</i> (Synonyms), <i>Noi Varum Vazhi</i> (Etiology), <i>Murkurigunangal</i> (Risk factors), <i>Mukkuutra Verupadu</i> (Siddha Pathogenesis), <i>Kurigunangal</i> (Clinical features), <i>Vagaigal</i> (Types), Siddha Diagnostic procedures, Contemporary diagnostic techniques, <i>Noiyinpokku</i> (Prognosis), <i>Maruthuva Vazhimurai</i> (Line of treatment), <i>Noi cikkalgal</i> (Complications), Management, Patient education on management and safety, <i>Noi Thaduppumuraigal</i> (Preventive care), <i>Pathiyam</i>, Neuropsychological evaluation and management through counselling & Yoga. 2.3.1. <i>Soolai</i> 2.3.2. <i>Sanni</i> 2.3.3. <i>Mayakkam</i>					
		4	20	40	60	120
Semester No : 4						
2A Modu le Nu mber	2B Modules & units	2C Num ber of Credi	Notional Learning hours			

		ts	2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
3	M-3 Vali Noigal pertaining to Nervous system This module deals with the comprehensive knowledge of <i>Vali Noigal</i> pertaining to Nervous system including the comparative study mentioned by various siddhars, application of Siddha diagnostic principles & contemporary medical techniques to determine the diagnosis and various therapeutic approaches & procedural management. • M3U1 Vali Noigal pertaining to Central Nervous System. Common characteristic features of <i>Vali Noigal</i> pertaining to Central Nervous system (<i>Vignanamaya kosam</i>), <i>Vagaigal</i> (Types) mentioned by <i>Yugi</i>, <i>Kumbamuni</i> and other Siddhars, <i>Noi Varum Vazhi</i> (Etiopathogenesis), <i>Noi Kurigunangal</i> (Clinical features) of individual type, <i>Noi kanippu</i> (Diagnosis), <i>Noiyinpokku</i> (Prognosis) based on Siddha and Modern investigatory and Clinical methods, <i>Maruthuva Vazhimurai</i> (Specific line of treatment). Details of Siddha therapeutics from various references including Internal and External medicines. Rational use of Therapeutics, <i>Pathiyam</i>, Prevention & Health education, National Health campaigns of AYUSH and components under NRHM, Review on Clinical Research papers. 3.1.1. <i>Vathakarnagam</i> 3.1.2. <i>Vathaupagatham</i> 3.1.3. <i>Pakkavatham</i>	3	15	30	45	90

- 3.1.4. *Patchavatham*
- 3.1.5. *Nagarivatham*
- 3.1.6. *Arputhavatham*
- 3.1.7. *Uragavatham(Uragathavatham)*
- 3.1.8. *Atta thantra vatham*
- 3.1.9. *Sirakambavatham*
- 3.1.10. *Vachiraruba vatham*
- 3.1.11. *Sanni vatha nokkadu*
- 3.1.12. *Raththa pitha nokkadu*
- 3.1.13. *Sirakamba avathanagam*
- 3.1.14. *Pathithavatham*
- 3.1.15. *Pranalayavatham*

• **M3U2 Valippu Noigal**

Epidemiology, *Iyal (Definintion)*, *Veru peyargal* (Synonyms), *Noi Varum Vazhi* (Etiology), Risk factors, *Mukkuttra Verupadu* (Pathogenesis), *Noi Kurigunangal* (Clinical features), *Vagaigal* (Types), Siddha diagnostic procedures, contemporary diagnostic tests, *Noiyinpokku* (Prognosis, *Maruthuva Vazhimurai* (Line of treatment).

Management of *Valippu* in Special populations (Paediatrics, Geriatrics, Pregnancy) with Siddha references, Complications, Patient education on management and safety, Preventive care in *Valippu*. Dietary therapy, Neuropsychological evaluation and management through counselling & Yoga

3.2.1. *Valippu*

3.2.2. *Kandaga avathanagam*

• **M3U3 Vali Noigal pertaining to Peripheral Nervous System.**

Common characteristic features of *Vali Noigal pertaining to* peripheral nervous system, *Vagaigal* (Types) mentioned by *Yugi*, *Kumbamuni* and other Siddhars, *Noi Varum Vazhi* (Etiopathogenesis), *Noi Kurigunangal* (Clinical features) of individual type, *Noi kanippu* (Diagnosis), *Noiyinpokku* (Prognosis) based on Siddha and Modern investigatory and Clinical methods, *Maruthuva Vazhimurai* (Specific line of treatment).

	Elaborate details of Siddha therapeutics from various references including Internal and External medicines. Specific emphasis on neuro degenerative disorders pertaining to the classification. Rational use of Therapeutics, <i>Pathiyam</i>, Prevention & Health education, National Health campaigns of AYUSH and components under NRHM, Review on Clinical Research papers. 3.3.1. <i>Vathakarshanam</i> 3.3.2. <i>Vathasthambam</i> 3.3.3. <i>Karathambavatham</i> 3.3.4. <i>Savvirangavatham</i> 3.3.5. <i>Oorusthambavatham</i> 3.3.6. <i>Panikambavatham</i> 3.3.7. <i>Pasathambavatham</i>					
4	M-4 Vali Noigal pertaining to Ear, Nose, Throat & Oral cavity This module deals with the comprehensive knowledge of <i>Vali Noigal</i> pertaining to ear, nose, throat & oral cavity origin including the comparative study mentioned by various siddhars, application of siddha diagnostic principles & contemporary medical techniques to determine the diagnosis and various therapeutic approaches & procedural management. • M4U1 Vali Noigal pertaining to Ear Common characteristic features of <i>Vali Noigal</i> pertaining to Ear, <i>Vagaigal</i> (Types) mentioned by <i>Yugi</i>, <i>Kumbamuni</i> and other Siddhars, <i>Noi Varum Vazhi</i> (Etiopathogenesis), <i>Noi Kurigunangal</i> (Clinical features) of individual type, <i>Noi kanippu</i> (Diagnosis), <i>Noiyinpokku</i> (Prognosis) based on Siddha and Modern investigatory and Clinical methods, <i>Maruthuva Vazhimurai</i> (Specific line of treatment). Details of Siddha therapeutics from various references including Internal and External medicines.	1	5	10	15	30

Rational use of Therapeutics, *Pathiyam*, Prevention & Health education, National Health campaigns of AYUSH and components under NRHM, Review on Clinical Research papers.

4.1.1. *Sevipadu vatham*

4.1.2. *Karna soolai vatham*

4.1.3. *Vatha karna soolai*

4.1.4. *Pitha karna soolai*

4.1.5. *Selathuma karna soolai*

4.1.6. *Kirumi karna soolai*

• **M4U2 Vali Noigal pertaining to Nose**

Common characteristic features of *Vali Noigal* pertaining to Nose, *Vagaigal* (Types) mentioned by *Yugi*, *Kumbamuni* and other Siddhars, *Noi Varum Vazhi* (Etiopathogenesis), *Noi Kurigunangal* (Clinical features) of individual type, *Noi kanippu* (Diagnosis), *Noiyinpokku* (Prognosis) based on Siddha and Modern investigatory and Clinical methods, *Maruthuva Vazhimurai* (Specific line of treatment).

Details of Siddha therapeutics from various references including Internal and External medicines.

Rational use of Therapeutics, *Pathiyam*, Prevention & Health education, National Health campaigns of AYUSH and components under NRHM, Review on Clinical Research papers.

4.2.1. *Pitha thalai nokkadu*

4.2.2. *Sethuma thalai nokkadu*

4.2.3. *Kirumi katha nokkadu*

4.2.4. *Chandravartha nokkadu*

• **M4U3 Vali Noigal pertaining to Throat & Oral cavity**

Common characteristic features of *Vali Noigal* pertaining Throat & Oral cavity, *Vagaigal* (Types) mentioned by *Yugi*, *Kumbamuni* and other Siddhars, *Noi Varum Vazhi* (Etiopathogenesis), *Noi Kurigunangal* (Clinical features) of individual type, *Noi kanippu* (Diagnosis), *Noiyinpokku* (Prognosis) based on Siddha and Modern investigatory and Clinical methods, *Maruthuva Vazhimurai* (Specific line of treatment).

	Details of Siddha therapeutics from various references including Internal and External medicines. Rational use of Therapeutics, <i>Pathiyam</i>, Prevention & Health education, National Health campaigns of AYUSH and components under NRHM, Review on Clinical Research papers. 4.3.1. <i>Sathasthamba vatham</i> 4.3.2. <i>Kanda kiraaga vatham</i> 4.3.3. <i>Silethuma vatha suronitham</i> 4.3.4. <i>Angnana thamba vatham</i> 4.3.5. <i>Thanthavayu</i>					
		4	20	40	60	120
Semester No : 5						
2A Modu le Nu mber	2B Modules & units	2C Num ber of Credi ts	Notional Learning hours			
			2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
5	M-5 Vali Noigal pertaining to Bones, Joints and Connective tissues. This module deals with the comprehensive knowledge of <i>Vali Noigal</i> pertaining to Bone, Joints and Connective tissues including the comparative study mentioned by various siddhars, application of Siddha diagnostic principles & contemporary medical techniques to determine the diagnosis and various therapeutic approaches & procedural management.	2	10	20	30	60

• **M5U1 Arthritis pertaining to Vertebral column(spondylo arthropathies)**

Common characteristic features of Arthritis pertaining to Vertebral column (Spondylo arthropathies), *Vagaigal* (Types) mentioned by *Yugi*, *Kumbamuni* and other Siddhars, *Noi Varum Vazhi* (Etiopathogenesis), *Noi Kurigunangal* (Clinical features) of individual type, *Noi kanippu* (Diagnosis), *Noiyinpokku* (Prognosis) based on Siddha and Modern investigatory and Clinical methods, *Maruthuva Vazhimurai* (Specific line of treatment).

Details of Siddha therapeutics from various references including Internal and External medicines.

Rational use of Therapeutics, *Pathiyam*, Prevention & Health education, National Health campaigns of AYUSH and components under NRHM, Review on Clinical Research papers.

5.1.1. *Ceganavatham*

5.1.2. *Aasuvathambavatham (Aswathambavatham)*

5.1.3. *Mooduvatham*

5.1.4. *Malaiththakambavatham*

5.1.5. *Kurisakirisavatham*

5.1.6. *Poosuvatham*

5.1.7. *Karna vartha nokkadu*

• **M5U2 Arthritis pertaining to Upper limb and Lower limb**

Common characteristic features of Arthritis pertaining to Upper limb and Lower limb, *Vagaigal* (Types) mentioned by *Yugi*, *Kumbamuni* and other Siddhars, *Noi Varum Vazhi* (Etiopathogenesis), *Noi Kurigunangal* (Clinical features) of individual type, *Noi kanippu* (Diagnosis), *Noiyinpokku* (Prognosis) based on Siddha and Modern investigatory and Clinical methods, *Maruthuva Vazhimurai* (Specific line of treatment).

Details of Siddha therapeutics from various references including Internal and External medicines.

Rational use of Therapeutics, *Pathiyam*, Prevention & Health education, National Health campaigns of AYUSH and components under NRHM, Review on Clinical Research papers.

5.2.1. *Uthira vatha suronitham*

	5.2.2. <i>Vatha suronitham</i> 5.2.3. <i>Paithiya vatha suronitham</i> 5.2.4. <i>Vaigitha vatha suronitham</i> 5.2.5. <i>Peivatham</i> 5.2.6. <i>Thalathambavatham</i> 5.2.7. <i>Narithalaivatham</i> 5.2.8. <i>Kalanjagavatham</i> 5.2.9. <i>Uthara vatha suronivatham</i> 5.2.10. <i>Santhuvatham</i> 5.2.11. <i>Kumbavatham</i> • M5U3 Types of Keelvayu as per Sababathi kaiyedu <i>Iyal</i> (Definition), <i>Noi Varum Vazhi</i> (Etiology), <i>Vagaigal</i> (Types), <i>Mukkuttra verupadu</i> (Pathophysiology), <i>Noi Kurigunangal</i> (Clinical features), <i>Noi Kanippu</i> (Diagnosis), <i>Maruthuva Vazhimurai</i> (Line of treatment), <i>Sirappu Ulmaruthuvam & Veli Maruthuvam</i> (Specific Internal & External medicines) and <i>Pathiyam</i>. 5.3.1. <i>Vali keelvayu</i> 5.3.2. <i>Azhal keelvayu</i> 5.3.3. <i>Iya keelvayu</i> 5.3.4. <i>Vali azhal keelvayu</i> 5.3.5. <i>Vali iya keelvayu</i> 5.3.6. <i>Azhal vali keelvayu</i> 5.3.7. <i>Azhal iya keelvayu</i> 5.3.8. <i>Iya vali keelvayu</i> 5.3.9. <i>Iya azhal keelvayu</i> 5.3.10. <i>Mukkuttra keelvayu</i>					
6	M-6 Vali Noigal pertaining to Uro-Genital system & Skin This module deals with the comprehensive knowledge of <i>Vali Noigal</i> pertaining	2	10	20	30	60

to Uro-genital & Skin including the comparative study mentioned by various Siddhars, application of siddha diagnostic principles & contemporary medical techniques to determine the diagnosis and various therapeutic approaches & procedural management.

• M6U1 Vali Noigal pertaining to Renal system

Common characteristic features of *Vali Noigal* pertaining to Renal system, *Vagaigal* (Types) mentioned by *Yugi*, *Kumbamuni* and other Siddhars, *Noi Varum Vazhi* (Etiopathogenesis), *Noi Kurigunangal* (Clinical features) of individual type, *Noi kanippu* (Diagnosis), *Noiyinpokku* (Prognosis) based on Siddha and Modern investigatory and Clinical methods, *Maruthuva Vazhimurai* (Specific line of treatment).

Details of Siddha therapeutics from various references including Internal and External medicines.

Rational use of Therapeutics, *Pathiyam*, Prevention & Health education, National Health campaigns of AYUSH and components under NRHM, Review on Clinical Research papers.

6.1.1. *Salasthambavatham (Neerkattuvatham)*

6.1.2. *Muthra uthiravatham*

6.1.3. *Miguneer(Vatha neer-4)*

• M6U2 Vali Noigal pertaining to Male Reproductive system.

Common characteristic features of *Vali Noigal* pertaining to Male Reproductive system, *Vagaigal* (Types) mentioned by *Yugi*, *Kumbamuni* and other Siddhars, *Noi Varum Vazhi* (Etiopathogenesis), *Noi Kurigunangal* (Clinical features) of individual type, *Noi kanippu* (Diagnosis), *Noiyinpokku* (Prognosis) based on Siddha and Modern investigatory and Clinical methods, *Maruthuva Vazhimurai* (Specific line of treatment).

Details of Siddha therapeutics from various references including Internal and External medicines.

Rational use of Therapeutics, *Pathiyam*, Prevention & Health education, National Health campaigns of AYUSH and components under NRHM, Review on Clinical Research papers.

6.2.1. *Tantra vetti vatham*

6.2.2. *Peejas thambavatham*

6.2.3. *Mechchu vatham*

6.2.4. *Aswa vatham*

6.2.5. *Sukkilavatham*

• **M6U3 Vali Noigal pertaining to Female Reproductive system.**

Common characteristic features of *Vali Noigal* pertaining to Female Reproductive system, *Vagaigal* (Types) mentioned by *Yugi*, *Kumbamuni* and other Siddhars, *Noi Varum Vazhi* (Etiopathogenesis), *Noi Kurigunangal* (Clinical features) of individual type, *Noi kanippu* (Diagnosis), *Noiyinpokku* (Prognosis) based on Siddha and Modern investigatory and Clinical methods, *Maruthuva Vazhimurai* (Specific line of treatment).

Details of Siddha therapeutics from various references including Internal and External medicines.

Rational use of Therapeutics, *Pathiyam*, Prevention & Health education, National Health campaigns of AYUSH and components under NRHM, Review on Clinical Research papers.

6.3.1. *Attasoolai vatham*

6.3.2. *Karpasoolai vatham*

6.3.3. *Yonisoolai vatham*

6.3.4. *Guna avathanagam*

• **M6U4 Vali Noigal pertaining to Skin**

Common characteristic features of *Vali Noigal* pertaining to Skin, *Vagaigal* (Types) mentioned by *Yugi*, *Kumbamuni* and other Siddhars, *Noi Varum Vazhi* (Etiopathogenesis), *Noi Kurigunangal* (Clinical features) of individual type, *Noi kanippu* (Diagnosis), *Noiyinpokku* (Prognosis) based on Siddha and Modern investigatory and Clinical methods, *Maruthuva Vazhimurai* (Specific line of treatment).

Details of Siddha therapeutics from various references including Internal and External medicines.

Rational use of Therapeutics, *Pathiyam*, Prevention & Health education, National Health campaigns of AYUSH and components under NRHM, Review on Clinical

	Research papers. 6.4.1. <i>Kuttam</i> 6.4.2. <i>Karappan</i> 6.4.3. <i>Sithuvathasuronitham</i>					
		4	20	40	60	120
Semester No : 6						
2A Modu le Nu mber	2B Modules & units	2C Num ber of Credi ts	Notional Learning hours			
			2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
7	M-7 Vali Noigal pertaining to Abdomen This module deals with the comprehensive knowledge of <i>Vali Noigal</i> pertaining to Abdomen including the comparative study mentioned by various Siddhars, application of Siddha diagnostic principles & contemporary medical techniques to determine the diagnosis and various therapeutic approaches & procedural management. • M7U1 Vali Noigal pertaining to Upper part of abdomen. Common characteristic features of <i>Vali Noigal</i> pertaining to Upper part of abdomen, <i>Vagaigal</i> (Types) mentioned by <i>Yugi</i> , <i>Kumbamuni</i> and other Siddhars, <i>Noi Varum Vazhi</i> (Etiopathogenesis), <i>Noi Kurigunangal</i> (Clinical features) of individual type, <i>Noi kanippu</i> (Diagnosis), <i>Noiyinpokku</i> (Prognosis) based on Siddha and Modern investigatory and Clinical methods, <i>Maruthuva Vazhimurai</i> (Specific line of	2	10	20	30	60

treatment).

Details of Siddha therapeutics from various references including Internal and External medicines.

Rational use of Therapeutics, *Pathiyam*, Prevention & Health education, National Health campaigns of AYUSH and components under NRHM, Review on Clinical Research papers.

7.1.1. *Uragarivatham*

7.1.2. *Atchebagavatham(Anobagavatham)*

7.1.3. *Utharavatham*

7.1.4. *Mantham*

7.1.5. *Gunmam*

• **M7U2 Vali Noigal pertaining to Intestine.**

Common characteristic features of *Vali Noigal* pertaining to Intestine, *Vagaigal* (Types) mentioned by *Yugi*, *Kumbamuni* and other Siddhars, *Noi Varum Vazhi* (Etiopathogenesis), *Noi Kurigunangal* (Clinical features) of individual type, *Noi kanippu* (Diagnosis), *Noiyinpokku* (Prognosis) based on Siddha and Modern investigatory and Clinical methods, *Maruthuva Vazhimurai* (Specific line of treatment).

Details of Siddha therapeutics from various references including Internal and External medicines.

Rational use of Therapeutics, *Pathiyam*, Prevention & Health education, National Health campaigns of AYUSH and components under NRHM, Review on Clinical Research papers.

7.2.1. *Koonivatham*

7.2.2. *Mahavatham*

7.2.3. *Mruthuvatham*

7.2.4. *Vasuvatham*

7.2.5. *Thandagavatham*

7.2.6. *Kudalvatham*

• **M7U3 Vali Noigal pertaining to Ano Rectal region**

Common characteristic features of *Vali Noigal* pertaining to Ano rectal region, *Vagaigal*(Types) mentioned by *Yugi*, *Kumbamuni* and other Siddhars, *Noi*

	<i>Varum Vazhi</i> (Etiopathogenesis), <i>Noi Kurigunangal</i> (Clinical features) of individual type, <i>Noi kanippu</i> (Diagnosis), <i>Noiyinpokku</i> (Prognosis) based on Siddha and Modern investigatory and Clinical methods, <i>Maruthuva Vazhimurai</i> (Specific line of treatment). Details of Siddha therapeutics from various references including Internal and External medicines. Rational use of Therapeutics, <i>Pathiyam</i>, Prevention & Health education, National Health campaigns of AYUSH and components under NRHM, Review on Clinical Research papers. 7.3.1. <i>Eruvaimulainoi</i> 7.3.2. <i>Powthiram</i>					
8	M-8 Siddha Oncology This module deals with the comprehensive knowledge on various types of <i>Putru Noi</i> including the comparative study mentioned by various siddhars, application of siddha diagnostic principles & contemporary medical techniques to determine the diagnosis and various therapeutic approaches & procedural management. • M8U1 General considerations of <i>Putru Noi</i> and <i>Vippruthi</i> 8.1.1. Introduction to Risk factors 8.1.2. Predisposing conditions mentioned by Siddhars with Special insight of genetics and molecular biology. • M8U2 Siddha Pathogenesis and Diagnosis of <i>Putru Noi</i>. 8.2.1. <i>Mukkuttraiyal</i> (Pathophysiology) in <i>Putru Noi</i> 8.2.2. Variations of manifestation in different organs involved 8.2.3. Descriptions of clinical features by Siddhars 8.2.4. Diagnostic principles including <i>Naadi</i>, <i>Neikuri</i> etc., 8.2.5. <i>Envagai thervugal</i> 8.2.6. Interpretations of modern diagnostic tests	2	10	20	30	60

	8.2.7. Staging, risk assessments and prognosis by Siddha and contemporary methods. • M8U3 Cancer Management-Specialized approach. 8.3.1. Pain management & Palliative care. 8.3.2. Psychological support 8.3.3. Rehabilitation survivorship. 8.3.4. Integrative care. 8.3.5. End-of-life care and Hospice • M8U4 Therapeutic approaches for Putru Noi 8.4.1. Siddha Medicines (Internal & External) 8.4.2. <i>Perumarunthugal</i> (Higher order Medicines) 8.4.3. <i>Kayakalpa Marunthugal</i>. 8.4.4. Contemporary therapies. 8.4.5. Curative potency of <i>Siddhar Perumarunthagal</i> in <i>Putru Noi</i> treatment. 8.4.6. Potential side effects of cancer treatment and the role of siddha medicines to combat them. 8.4.7. Siddha principles of Prevention, Diet, Lifestyle modifications and <i>Kayakalpam</i>. 8.4.8. Cancer research and guidelines to stay up to date with knowledge. 8.4.9. Research and Clinical trials					
		4	20	40	60	120
		16	80	160	240	480
Paper No : 2 (Principles and Practice of Siddha Maruthuvam - Azhal and Iya Noigal)						
Semester No : 3						
2A Modu le Nu	2B Modules & units	2C Num ber of	Notional Learning hours			

Number		Credits	2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
9	M-9 General considerations of Azhal and Iya diseases on the basis of Siddha System of Medicine This Module covers the physical properties, basic functions, pathological changes, types and features of <i>Azhal</i>, <i>Iyam</i> and its conditions of <i>Thannilai valarchi</i>, <i>Vetrunilai valarchi</i>, <i>Thannilai adaithal</i>, diagnostic methodology using Siddha diagnostic tools and its influence on 14 natural urges and 5 <i>koshams</i>. • M9U1 General Characteristic features of Azhal 9.1.1 Predominant location, shape of <i>Azhal</i> 9.1.2 Properties and basic functioning of <i>Azhal</i> and seasons in which <i>Azhal</i> is aggravated 9.1.3 <i>Azhal migu gunam</i> and <i>kurai gunam</i> 9.1.4 Influence of <i>Azhal</i> on other humours • M9U2 Significance of derangement of Azhal in human body 9.2.1 Significance of derangement of <i>Azhal</i> in human body 9.2.2 The pathological changes of <i>Azhal</i> in deranged conditions 9.2.3 <i>Thannilai valarchi</i>, <i>vetrunilai valarchi</i> and <i>thannilai adaithal</i> (Augmenting and diminishing features) of <i>Azhal</i> 9.2.4 Characteristic features and diagnosis of <i>Azhal</i> diseases by <i>envagaithervu</i> and other siddha clinical tools Role of <i>Azhal</i> in derangement of 14 natural urges, features of <i>Azhal udal</i>, and influence of <i>Azhal</i> in five <i>kosams</i>	2	10	20	30	60

	• M9U3 General Characteristic features of Iyam 9.3.1 Predominant location, shape of <i>Iyam</i> 9.3.2 Properties and basic functioning of <i>Iyam</i> and seasons in which <i>Iyam</i> is aggravated 9.3.3 <i>Iyam migu gunam</i> and <i>kurai gunam</i> 9.3.4 Influence of <i>Iyam</i> on other humours • M9U4 Significance of derangement of Iyam in human body 9.4.1 Significance of derangement of <i>Iyam</i> in human body 9.4.2 The pathological changes of <i>Iyam</i> in deranged conditions 9.4.3 <i>Thannilai valarchi</i>, <i>vetrunilai valarchi</i> and <i>thannilai adaithal</i> (Augmenting and diminishing features) of <i>Iyam</i> 9.4.4 Characteristic features and diagnosis of <i>Iyam</i> diseases by <i>envagaithervu</i> and other siddha clinical tools - Role of <i>Iyam</i> in derangement of 14 natural urges, features of <i>Iyam udal</i>, and influence of <i>Iyam</i> in five <i>kosams</i>					
10	M-10 Kuruthi Azhal and Respiratory system diseases related to Azhal and Iyam This module covers the Definition, Synonyms, Etiopathogenesis, Pre-monitory symptoms, Clinical features, Types, Curable and Incurable states of <i>Kuruthiazhal</i>, <i>Peenisam</i>, <i>Kuralkammal</i>, <i>Erumal</i>, <i>Eraipu</i>, <i>Elaipu</i> and <i>Ulaimeathai</i>. and demonstration of their <i>Mukutra verupadu</i>, <i>Envagai thervu</i> along with Line of treatment, Diet regulation, Lifestyle modifications, Modern diagnostic tools and a review of National Health programmes. • M10U1 Kuruthi Azhal (Systemic hypertension & Bleeding Disorders) 10.1.1 <i>Iyal</i> (Definition), <i>Veru peyargal</i> (Synonyms), <i>Noi varum vazhi</i> (Etiopathogenesis) 10.1.2 <i>Murkurigunangal</i> (Premonitory symptoms), <i>Pothu kurigunangal</i> (Common clinical features)	2	10	20	30	60

10.1.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases)

10.1.4 *Mukkutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools)

10.1.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol)

10.1.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available)

10.1.7 Modern diagnostic tools

10.1.8 Recent advances through research papers of *Kuruthiazhal* , AYUSH campaigns and National health programmes related to the disease if applicable.

• **M10U2 Peenisam (Sinusitis)**

10.2.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis)

10.2.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features)

10.2.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases)

10.2.4 *Mukkutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools)

10.2.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol)

10.2.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available)

10.2.7. Modern diagnostic tools

10.2.8 Recent advances through research papers of *Peenisam*

• **M10U3 Kuralkammal (Hoarseness of Voice)**

10.3.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis)

10.3.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features)

10.3.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases)

10.3.4 *Mukkutra Verupadu* and *Envagai Thervu* (Derangement

of humors and Siddha diagnostic tools) 10.3.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal* (Treatment protocol) 10.3.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 10.3.7 Modern diagnostic tools 10.3.8 Recent advances through research papers of *Kuralkammal*

• **M10U4 Erumal (Cough)**

10.4. 1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis)

10.4.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features)

10.4.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases)

10.4.4 *Mukutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools)

10.4.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal* (Treatment protocol)

10.4.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available)

10.4.7 Modern diagnostic tools

10.4.8 Recent advances through research papers of *Erumal*.

• **M10U5 Eraippu (Bronchial Asthma)**

10.5.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis)

10.5.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features)

10.5.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases)

10.5.4 *Mukutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools)

10.5.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal* (Treatment protocol)

10.5.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available)

10.5.7 Modern diagnostic tools

10.5.8 Recent advances through research papers of *Eraippu*

10.5.9 AYUSH campaigns and National health programmes related to the disease if applicable.

• **M10U6 Elaippu (Pulmonary and Extra-pulmonary Tuberculosis)**

10.6.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis)

10.6.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features)

10.6.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases)

10.6.4 *Mukkuutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools)

10.6.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol)

10.6.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available)

10.6.7 Modern diagnostic tools

10.6.8 Recent advances through research papers of *Elaippu*

10.6.9 AYUSH campaigns and National health programmes related to the disease if applicable.

• **M10U7 Ulaimanthai (Acute/ Chronic Enteritis)**

10.7.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis)

10.7.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features)

10.7.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases)

10.7.4 *Mukkuutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools)

	10.7.5 <i>Noikanippu vivatham</i> (Differential diagnosis), <i>Munkanippu</i> (Prognosis), <i>Maruthuva Vazhi muraigal</i> (Treatment protocol) 10.7.6 <i>Pathiyam</i> and <i>unavu</i> (Diet regulation), <i>Noi thaduppu muraigal</i> (Prophylaxis or vaccination if available) 10.7.7 Modern diagnostic tools 10.7.8 Recent advances through research papers of <i>Ulaimanthai</i> 10.7.9 AYUSH campaigns and National health programmes related to the disease if applicable.					
		4	20	40	60	120
Semester No : 4						
2A Module Number	2B Modules & units	2C Number of Credits	Notional Learning hours			
			2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
11	M-11 Azhal Noigal – 42 ,Haematology and Hepato biliary system diseases related to Azhal This module deals with the Definition, Synonyms, Etiopathogenesis, Pre-monitory symptoms, Clinical features, Types, Curable and Incurable states of Azhal noi 42, Pandu, Kamalai, Peruvaiyuru, Manneeral , Kalleral noi and kudiveri noi with the Demonstration of Mukutra verupadu, Envagai thervu, Line of treatment, Diet regulation, Lifestyle modifications, Modern diagnostic tools and National Health programmes.	3	15	30	45	90

• **M11U1 Types of Azhalnoigal-42 (Pitha diseases)**

11.1.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis)

11.1.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features)

11.1.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases)

11.1.4 *Mukkutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools)

11.1.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol)

11.1.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available)

11.1.7 Modern diagnostic tools

11.1.8 Recent advances through research papers of *Azhalnoigal-42*

• **M11U2 Veluppu Noi (Anaemia)**

11.2.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis)

11.2.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features)

11.2.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases)

11.2.4 *Mukkutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools)

11.2.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol)

11.2.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available)

11.2.7 Modern diagnostic tools

11.2.8 Recent advances through research papers of *Veluppu Noi*

11.2.9 AYUSH campaigns and National health programmes related to the disease if applicable.

• **M11U3 Manjal Noi (Jaundice)**

11.3.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis)

11.3.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features)

11.3.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases)

11.3.4 *Mukutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools)

11.3.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol)

11.3.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available)

11.3.7 Modern diagnostic tools

11.3.8 Recent advances through research papers of *Manjal Noi*

11.3.9 AYUSH campaigns and National health programmes related to the disease if applicable.

• **M11U4 Peruvayiru (Ascites)**

11.4.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis)

11.4.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features)

11.4.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases)

11.4.4 *Mukutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools)

11.4.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol)

11.4.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available)

11.4.7 Modern diagnostic tools

11.4.8 Recent advances through research papers of *Peruvayiru*.

• M11U5 Manneeral noi and Kalleeral noi (Spleen and Liver disorders) 11.5.1 <i>Iyal</i> (Definition), <i>Veru peyargal</i> (Synonyms), <i>Noi varum vazhi</i> (Etiopathogenesis) 11.5.2 <i>Murkurigunangal</i> (Premonitory symptoms), <i>Pothu kurigunangal</i> (Common clinical features) 11.5.3 <i>Theerum & Theera Nilai</i> (Curable & Incurable states), <i>Noi thodangal matrum thunai noigal</i> (Complication and associated diseases) 11.5.4 <i>Mukkutra Verupadu</i> and <i>Envagai Thervu</i> (Derangement of humors and Siddha diagnostic tools) 11.5.5 <i>Noikanippu vivatham</i> (Differential diagnosis), <i>Munkanippu</i> (Prognosis), <i>Maruthuva Vazhi muraigal</i>(Treatment protocol) 11.5.6 <i>Pathiyam</i> and <i>unavu</i> (Diet regulation), <i>Noi thaduppu muraigal</i> (Prophylaxis or vaccination if available) 11.5.7 Modern diagnostic tools 11.5.8 Recent advances through research papers of Manneeral and Kalleeral noi. • M11U6 Kudiveri Noi (Alcoholism) 11.6.1 <i>Iyal</i> (Definition), <i>Veru peyargal</i> (Synonyms), <i>Noi varum vazhi</i> (Etiopathogenesis) 11.6.2 <i>Murkurigunangal</i> (Premonitory symptoms), <i>Pothu kurigunangal</i> (Common clinical features) 11.6.3 <i>Theerum & Theera Nilai</i> (Curable & Incurable states), <i>Noi thodangal matrum thunai noigal</i> (Complication and associated diseases) 11.6.4 <i>Mukkutra Verupadu</i> and <i>Envagai Thervu</i> (Derangement of humors and Siddha diagnostic tools), <i>Noikanippu vivatham</i> (Differential diagnosis) 11.6.5 <i>Munkanippu</i> (Prognosis), <i>Maruthuva Vazhi muraigal</i>(Treatment protocol) 11.6.6 <i>Pathiyam</i> and <i>unavu</i> (Diet regulation), <i>Noi thaduppu muraigal</i> (Prophylaxis or vaccination if available) 11.6.7 Modern diagnostic tools 11.6.8 Recent advances through research papersof <i>Kudiveri Noi</i> 11.6.9 AYUSH campaigns and National health programmes related to the disease if applicable.					
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12	M-12 Iya Noigal related to Haematology, Vikkal and Naalamilla surapi noigal (Endocrine diseases) This module explores the Definition, Synonyms, Etiopathogenesis, Pre-monitory symptoms, Clinical features, Types, Curable and incurable states of <i>Vikkal</i>, <i>Sobai</i>, Hypo-thyroidism, Hyper thyroidism, Obesity and Adrenal disorders with demonstration of their <i>Mukutra verupadu</i>, <i>Envagai thervu</i>, Line of treatment, Diet regulation, Lifestyle modifications, Modern diagnostic tools and National Health Programmes. • M12U1 Vikkal (Hiccup) 12.1.1 <i>Iyal</i> (Definition), <i>Veru peyargal</i> (Synonyms), <i>Noi varum vazhi</i> (Etiopathogenesis) 12.1.2 <i>Murkurigunangal</i> (Premonitory symptoms), <i>Pothu kurigunangal</i> (Common clinical features) 12.1.3 <i>Theerum & Theera Nilai</i> (Curable & Incurable states), <i>Noi thodangal matrum thunai noigal</i> (Complication and associated diseases) 12.1.4 <i>Mukutra Verupadu</i> and <i>Envagai Thervu</i> (Derangement of humors and Siddha diagnostic tools) 12.1.5 <i>Noikanippu vivatham</i> (Differential diagnosis), <i>Munkanippu</i> (Prognosis), <i>Maruthuva Vazhi muraigal</i>(Treatment protocol) 12.1.6 <i>Pathiyam</i> and <i>unavu</i> (Diet regulation), <i>Noi thaduppu muraigal</i> (Prophylaxis or vaccination if available) 12.1.7 Modern diagnostic tools 12.1.8 Recent advances through research papers of <i>Vikkal</i>. • M12U2 Sobai (Dropsy) 12.2.1 <i>Iyal</i> (Definition), <i>Veru peyargal</i> (Synonyms), <i>Noi varum vazhi</i> (Etiopathogenesis) 12.2.2 <i>Murkurigunangal</i> (Premonitory symptoms), <i>Pothu kurigunangal</i> (Common clinical features)	1	5	10	15	30
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12.2.3 <i>Theerum & Theera Nilai</i> (Curable & Incurable states), <i>Noi thodangal matrum thunai noigal</i> (Complication and associated diseases) 12.2.4 <i>Mukkuutra Verupadu</i> and <i>Envagai Thervu</i> (Derangement of humors and Siddha diagnostic tools) 12.2.5 <i>Noikanippu vivatham</i> (Differential diagnosis), <i>Munkanippu</i> (Prognosis), <i>Maruthuva Vazhi muraigal</i>(Treatment protocol). 12.2.6 <i>Pathiyam</i> and <i>unavu</i> (Diet regulation), <i>Noi thaduppu muraigal</i> (Prophylaxis or vaccination if available) 12.2.7 Modern diagnostic tools 12.2.8 Recent advances through research papers of <i>Sobai</i> 12.2.9 AYUSH campaigns and National health programmes related to the disease if applicable. • M12U3 Kurai veethanam and athi veethana noigal (Hypothyroidism and Hyperthyroidism) 12.3.1 <i>Iyal</i> (Definition), <i>Veru peyargal</i> (Synonyms), <i>Noi varum vazhi</i> (Etiopathogenesis) 12.3.2 <i>Murkurigunangal</i> (Premonitory symptoms), <i>Pothu kurigunangal</i> (Common clinical features) 12.3.3 <i>Theerum & Theera Nilai</i> (Curable & Incurable states), <i>Noi thodangal matrum thunai noigal</i> (Complication and associated diseases) 12.3.4 <i>Mukkuutra Verupadu</i> and <i>Envagai Thervu</i> (Derangement of humors and Siddha diagnostic tools) 12.3.5 <i>Noikanippu vivatham</i> (Differential diagnosis), <i>Munkanippu</i> (Prognosis), <i>Maruthuva Vazhi muraigal</i>(Treatment protocol) 12.3.6 <i>Pathiyam</i> and <i>unavu</i> (Diet regulation), <i>Noi thaduppu muraigal</i> (Prophylaxis or vaccination if available) 12.3.7 Modern diagnostic tools 12.3.8 Recent advances through research papers of Hypo and Hyper Thyroidism 12.3.9 AYUSH campaigns and National health programmes related to the disease if applicable. • M12U4 Obesity and Adrenal Diseases 12.4.1 <i>Iyal</i> (Definition), <i>Veru peyargal</i> (Synonyms), <i>Noi varum vazhi</i>				
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	(Etiopathogenesis) 12.4.2 <i>Murkurigunangal</i> (Premonitory symptoms), <i>Pothu kurigunangal</i> (Common clinical features) 12.4.3 <i>Theerum & Theera Nilai</i> (Curable & Incurable states), <i>Noi thodangal matrum thunai noigal</i> (Complication and associated diseases) 12.4.4 <i>Mukkutra Verupadu</i> and <i>Envagai Thervu</i> (Derangement of humors and Siddha diagnostic tools) 12.4.5 <i>Noikanippu vivatham</i> (Differential diagnosis), <i>Munkanippu</i> (Prognosis), <i>Maruthuva Vazhi muraigal</i> (Treatment protocol) 12.4.6 <i>Pathiyam</i> and <i>unavu</i> (Diet regulation), <i>Noi thaduppu muraigal</i> (Prophylaxis or vaccination if available) 12.4.7 Modern diagnostic tools 12.4.8 Recent advances through research papers of Obesity and Adrenal Disease 12.4.9 AYUSH campaigns and National health programmes related to the disease if applicable.					
		4	20	40	60	120
Semester No : 5						
2A Modu le Nu mber	2B Modules & units	2C Num ber of Credi ts	Notional Learning hours			
			2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
13	M-13 Renal disorders related to Azhal , Newly emerging viral infections and infectious diseases	2	10	20	30	60

This module covers the Definition, Synonyms, Etiopathogenesis, Pre-monitory symptoms, Clinical features, Types, Curable and Incurable states of *Suram 64*, *Ammai noi*, *Kalladaipu* and *neeradaipu*, *Vellai noi*, *Venneer*, *Sottu neer* and *Neerchurukku*.and Demonstration of their *Mukutra verupadu*, *Envagai thervu*, Line of treatment, Diet regulation, Lifestyle modifications, Modern diagnostic tools, along with Newly emerging viral infections like Chickungunya, Dengue, Swine flu, Covid-19, Monkey pox and related National Health programmes

• M13U1 Chickungunya, Dengue, Swine flu, Covid-19 and Monkey pox

13.1.1 Definition, pathogenesis, risk factors

13.1.2 Clinical features, complications

13.1.3 Lab investigations and management through AYUSH-Siddha system of Medicine

13.1.4 Study of clinical research papers of Chickungunya, Dengue, Swine flu, Covid-19 and Monkey pox.

• M13U2 Suram-64 (Fever-64)

13.2.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis)

13.2.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features)

13.2.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases)

13.2.4 *Mukkutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools), *Noikanippu vivatham* (Differential diagnosis)

13.2.5 *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol), *Pathiyam* and *unavu* (Diet regulation)

13.2.6 *Noi thaduppu muraigal* (Prophylaxis or vaccination if available)

13.2.7 Modern diagnostic tools

13.2.8 Recent advances through research papers of *Suram-64*

• M13U3 Ammai Noi (Exanthematous Viral infections)

13.3.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis)

13.3.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features)

13.3.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases)

13.3.4 *Mukkuutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools), *Noikanippu vivatham* (Differential diagnosis)

13.3.5 *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol),

13.3.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available)

13.3.7 Modern diagnostic tools

13.3.8 AYUSH campaigns and National health programmes related to the disease if applicable.

• **M13U4 Kalladaipu and Neeradaipu (Renal calculi & Retention of Urine)**

13.4.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis)

13.4.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features)

13.4.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases)

13.4.4 *Mukkuutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools), *Noikanippu vivatham* (Differential diagnosis)

13.4.5 *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol)

13.4.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available)

13.4.7 Modern diagnostic tools

13.4.8 Recent advances through research papers of *Kalladaipu* and *Neeradaipu*

• **M13U5 Vellai noi (Urethritis/ Inflammation of Urogenital organs))**

13.5.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis)

13.5.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features)

13.5.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum*

<i>thunai noigal</i> (Complication and associated diseases) 13.5.4 <i>Mukkuutra Verupadu</i> and <i>Envagai Thervu</i> (Derangement of humors and Siddha diagnostic tools), <i>Noikanippu vivatham</i> (Differential diagnosis) 13.5.5 <i>Munkanippu</i> (Prognosis), <i>Maruthuva Vazhi muraigal</i>(Treatment protocol) 13.5.6 <i>Pathiyam</i> and <i>unavu</i> (Diet regulation), <i>Noi thaduppu muraigal</i> (Prophylaxis or vaccination if available) 13.5.7 Modern diagnostic tools 13.5.8 Recent advances through research papers of <i>Vellai noi</i> 13.5.9 AYUSH campaigns and National health programmes related to the disease if applicable. • M13U6 Venneer and Sottu Neer (Spermatorrhoea & Incontinence of Urine) 13.6.1 <i>Iyal</i> (Definition), <i>Veru peyargal</i> (Synonyms), <i>Noi varum vazhi</i> (Etiopathogenesis) 13.6.2 <i>Murkurigunangal</i> (Premonitory symptoms), <i>Pothu kurigunangal</i> (Common clinical features), 13.6.3 <i>Theerum & Theera Nilai</i> (Curable & Incurable states), <i>Noi thodangal matrum thunai noigal</i> (Complication and associated diseases) 13.6.4 <i>Mukkuutra Verupadu</i> and <i>Envagai Thervu</i> (Derangement of humors and Siddha diagnostic tools), 13.6.5 <i>Noikanippu vivatham</i> (Differential diagnosis), <i>Munkanippu</i> (Prognosis), <i>Maruthuva Vazhi muraigal</i>(Treatment protocol), 13.6.6 <i>Pathiyam</i> and <i>unavu</i> (Diet regulation), <i>Noi thaduppu muraigal</i> (Prophylaxis or vaccination if available) 13.6.7 Modern diagnostic tools 13.6.8 Recent advances through research papers of <i>Venneer and Sottu Neer</i> 13.6.9 AYUSH campaigns and National health programmes related to the disease if applicable. • M13U7 Neerchurukku (Oliguria) 13.7.1 <i>Iyal</i> (Definition), <i>Veru peyargal</i> (Synonyms), <i>Noi varum vazhi</i> (Etiopathogenesis) 13.7.2 <i>Murkurigunangal</i> (Premonitory symptoms), <i>Pothu kurigunangal</i> (Common clinical features)					
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	13.7.3 <i>Theerum & Theera Nilai</i> (Curable & Incurable states), <i>Noi thodangal matrum thunai noigal</i> (Complication and associated diseases) 13.7.4 <i>Mukkutra Verupadu</i> and <i>Envagai Thervu</i> (Derangement of humors and Siddha diagnostic tools), <i>Noikanippu vivatham</i> (Differential diagnosis) 13.7.5 <i>Munkanippu</i> (Prognosis), <i>Maruthuva Vazhi muraigal</i>(Treatment protocol), 13.7.6 <i>Pathiyam</i> and <i>unavu</i> (Diet regulation), <i>Noi thaduppu muraigal</i> (Prophylaxis or vaccination if available) 13.7.7 Modern diagnostic tools 13.7.8 Recent advances through research papers of <i>Neerchurukku</i>					
14	M-14 Renal disorders related to Iyam and Handling Emergency in Siddha System of Medicine This module covers the Definition, Synonyms, Etiopathogenesis, Pre-monitory symptoms, Clinical features, Types, Curable and Incurable states of <i>Mega neer</i>, <i>TheLINEER</i>, <i>Meganeerkattigal</i> along with the demonstration of <i>Mukutra verupadu</i>, <i>Envagai thervu</i>, Line of treatment, Diet regulation, Lifestyle modifications, Modern diagnostic tools, related National Health programmes and also handling emergency conditions like Unconscious patient, performing CPR, handling Respiratory emergency, Lower gastro intestinal bleeding, <i>Valippu</i>, Reduction of Fracture and dislocation. • M14U1 Azhal and Iya Meganeer 14.1.1 <i>Iyal</i> (Definition), <i>Veru peyargal</i> (Synonyms), <i>Noi varum vazhi</i> (Etiopathogenesis) 14.1.2 <i>Murkurigunangal</i> (Premonitory symptoms), <i>Pothu kurigunangal</i> (Common clinical features) 14.1.3 <i>Theerum & Theera Nilai</i> (Curable & Incurable states), <i>Noi thodangal matrum thunai noigal</i> (Complication and associated diseases) 14.1.4 <i>Mukkutra Verupadu</i> and <i>Envagai Thervu</i> (Derangement of humors and Siddha diagnostic tools)	2	10	20	30	60

14.1.5 <i>Noikanippu vivatham</i> (Differential diagnosis), <i>Munkanippu</i> (Prognosis), <i>Maruthuva Vazhi muraigal</i>(Treatment protocol) 14.1.6 <i>Pathiyam</i> and <i>unavu</i> (Diet regulation), <i>Noi thaduppu muraigal</i> (Prophylaxis or vaccination if available) 14.1.7 Modern diagnostic tools 14.1.8 Recent advances through research papers of <i>Azhal</i> and <i>Iya Meganeer</i> • M14U2 Thelineer (Diabetes Insipidus) 14.2.1 <i>Iyal</i> (Definition), <i>Veru peyargal</i> (Synonyms), <i>Noi varum vazhi</i> (Etiopathogenesis) 14.2.2 <i>Murkurigunangal</i> (Premonitory symptoms), <i>Pothu kurigunangal</i> (Common clinical features), 14.2.3 <i>Theerum & Theera Nilai</i> (Curable & Incurable states), <i>Noi thodangal matrum thunai noigal</i> (Complication and associated diseases) 14.2.4 <i>Mukutra Verupadu</i> and <i>Envagai Thervu</i> (Derangement of humors and Siddha diagnostic tools) 14.2.5 <i>Noikanippu vivatham</i> (Differential diagnosis), <i>Munkanippu</i> (Prognosis), <i>Maruthuva Vazhi muraigal</i>(Treatment protocol) 14.2.6 <i>Pathiyam</i> and <i>unavu</i> (Diet regulation), <i>Noi thaduppu muraigal</i> (Prophylaxis or vaccination if available) 14.2.7 Modern diagnostic tools 14.2.8 Recent advances through research papers of <i>Thelineer</i> • M14U3 Neerizhivu (Diabetes mellitus) 14.3.1 <i>Iyal</i> (Definition), <i>Veru peyargal</i> (Synonyms), <i>Noi varum vazhi</i> (Etiopathogenesis) 14.3.2 <i>Murkurigunangal</i> (Premonitory symptoms), <i>Pothu kurigunangal</i> (Common clinical features) 14.3.3 <i>Theerum & Theera Nilai</i> (Curable & Incurable states), <i>Noi thodangal matrum thunai noigal</i> (Complication and associated diseases) 14.3.4 <i>Mukutra Verupadu</i> and <i>Envagai Thervu</i> (Derangement of humors and Siddha diagnostic tools) 14.3.5 <i>Noikanippu vivatham</i> (Differential diagnosis), <i>Munkanippu</i> (Prognosis), <i>Maruthuva Vazhi muraigal</i>(Treatment protocol)					
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14.3.6 <i>Pathiyam</i> and <i>unavu</i> (Diet regulation), <i>Noi thaduppu muraigal</i> (Prophylaxis or vaccination if available) 14.3.7 Modern diagnostic tools 14.3.8 Recent advances through research papers of <i>Neerizhivu</i> 14.3.9 AYUSH campaigns and National health programmes related to the disease if applicable. • M14U4 Meganeer Kattigal (Diabetic abscesses) 14.4.1 <i>Iyal</i> (Definition), <i>Veru peyargal</i> (Synonyms), <i>Noi varum vazhi</i> (Etiopathogenesis) 14.4.2 <i>Murkurigunangal</i> (Premonitory symptoms), <i>Pothu kurigunangal</i> (Common clinical features) 14.4.3 <i>Theerum & Theera Nilai</i> (Curable & Incurable states), <i>Noi thodangal matrum thunai noigal</i> (Complication and associated diseases) 14.4.4 <i>Mukutra Verupadu</i> and <i>Envagai Thervu</i> (Derangement of humors and Siddha diagnostic tools) 14.4.5 <i>Noikanippu vivatham</i> (Differential diagnosis), <i>Munkanippu</i> (Prognosis), <i>Maruthuva Vazhi muraigal</i>(Treatment protocol) 14.4.6 <i>Pathiyam</i> and <i>unavu</i> (Diet regulation), <i>Noi thaduppu muraigal</i> (Prophylaxis or vaccination if available) 14.4.7 Modern diagnostic tools 14.4.8 Recent advances through research papers of <i>Meganeer Kattigal</i> • M14U5 Unconscious Patient (Sanni nilai) 14.5.1 Assess the <i>avathai nilai</i> and <i>anthakaranam</i> 14.5.2 Perform Siddha clinical examination 14.5.3 Observe for fatal symptoms. 14.5.4 Treat the patient with internal and external therapy • M14U6 Respiratory Emergency (Manthara Kasam) 14.6.1 Get consent from the patient or immediate relative 14.6.2 Enquire the history of previous illness, exposure to drugs, allergen, etc., 14.6.3 Take the vitals and assess the type of respiration, abnormal breath sounds and oxygen saturation. 14.6.4 Treat the patient with <i>Pugai</i>, <i>Nasiyam</i> and Internal medicines and Assess for				
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le Nu mber		ber of Credi ts	2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
15	M-15 Gastro Intestinal diseases related to Azhal This module deals with the Definition, Synonyms, Etiopathogenesis, Pre-monitory symptoms, Clinical features, Types, Curable and Incurable states of <i>Suvai inmai</i>, <i>Seriyamai</i>, <i>Neervetkai</i>, <i>Vanthi</i>, <i>Ninakalichal</i>, <i>Perunkalichal</i>, <i>Kaduppukalichal</i> and the demonstration of their <i>Mukutra verupadu</i>, <i>Envagai thervu</i>, Line of treatment, Diet regulation, Lifestyle modifications with Modern diagnostic tools. • M15U1 Suvai inmai (Taste disorders) 15.1.1 <i>Iyal</i> (Definition), <i>Veru peyargal</i> (Synonyms), <i>Noi varum vazhi</i> (Etiopathogenesis) 15.1.2 <i>Murkurigunangal</i> (Premonitory symptoms), <i>Pothu kurigunangal</i> (Common clinical features) 15.1.3 <i>Theerum & Theera Nilai</i> (Curable & Incurable states), <i>Noi thodangal matrum thunai noigal</i> (Complication and associated diseases) 15.1.4 <i>Mukutra Verupadu</i> and <i>Envagai Thervu</i> (Derangement of humors and Siddha diagnostic tools) 15.1.5 <i>Noikanippu vivatham</i> (Differential diagnosis), <i>Munkanippu</i> (Prognosis), <i>Maruthuva Vazhi muraigal</i>(Treatment protocol) 15.1.6 <i>Pathiyam</i> and <i>unavu</i> (Diet regulation), <i>Noi thaduppu muraigal</i> (Prophylaxis or vaccination if available) 15.1.7 Modern diagnostic tools	2	10	20	30	60

15.1.8 Recent advances through research papers of *Suvai inmai*

• **M15U2 Seriyamai (Indigestion)**

15.2.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis)

15.2.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features)

15.2.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases)

15.2.4 *Mukkuttra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools)

15.2.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol)

15.2.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available)

15.2.7 Modern diagnostic tools

15.2.8 Recent advances through research papers of *Seriyamai*

• **M15U3 Neervetkai (Polydipsia)**

15.3.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis)

15.3.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features)

15.3.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases)

15.3.4 *Mukkuttra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools)

15.3.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol)

15.3.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available)

15.3.7 Modern diagnostic tools

15.3.8 Recent advances through research papers of *Neervetkai*

• **M15U4 Vanthi (Vomiting)**

15.4.1 <i>Iyal</i> (Definition), <i>Veru peyargal</i> (Synonyms), <i>Noi varum vazhi</i> (Etiopathogenesis) 15.4.2 <i>Murkurigunangal</i> (Premonitory symptoms), <i>Pothu kurigunangal</i> (Common clinical features) 15.4.3 <i>Theerum & Theera Nilai</i> (Curable & Incurable states), <i>Noi thodangal matrum thunai noigal</i> (Complication and associated diseases) 15.4.4 <i>Mukkutra Verupadu</i> and <i>Envagai Thervu</i> (Derangement of humors and Siddha diagnostic tools) 15.4.5 <i>Noikanippu vivatham</i> (Differential diagnosis), <i>Munkanippu</i> (Prognosis), <i>Maruthuva Vazhi muraigal</i>(Treatment protocol) 15.4.6 <i>Pathiyam</i> and <i>unavu</i> (Diet regulation), <i>Noi thaduppu muraigal</i> (Prophylaxis or vaccination if available) 15.4.7 Modern diagnostic tools 15.4.8 Recent advances through research papers of <i>Vanthi</i> • M15U5 Ninakalichal (Amoebic dysentry) 15.5.1 <i>Iyal</i> (Definition), <i>Veru peyargal</i> (Synonyms), <i>Noi varum vazhi</i> (Etiopathogenesis) 15.5.2 <i>Murkurigunangal</i> (Premonitory symptoms), <i>Pothu kurigunangal</i> (Common clinical features) 15.5.3 <i>Theerum & Theera Nilai</i> (Curable & Incurable states), <i>Noi thodangal matrum thunai noigal</i> (Complication and associated diseases) 15.5.4 <i>Mukkutra Verupadu</i> and <i>Envagai Thervu</i> (Derangement of humors and Siddha diagnostic tools) 15.5.6 <i>Noikanippu vivatham</i> (Differential diagnosis), <i>Munkanippu</i> (Prognosis), <i>Maruthuva Vazhi muraigal</i>(Treatment protocol) 15.5.7 <i>Pathiyam</i> and <i>unavu</i> (Diet regulation), <i>Noi thaduppu muraigal</i> (Prophylaxis or vaccination if available) 15.5.8 Modern diagnostic tools 15.5.9 Recent advances through research papers of <i>Ninakalichal</i> • M15U6 Perunkalichal (Diarrhoea) 15.6.1 <i>Iyal</i> (Definition), <i>Veru peyargal</i> (Synonyms), <i>Noi varum vazhi</i> (Etiopathogenesis)					
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	15.6.2 <i>Murkurigunangal</i> (Premonitory symptoms), <i>Pothu kurigunangal</i> (Common clinical features) 15.6.3 <i>Theerum & Theera Nilai</i> (Curable & Incurable states), <i>Noi thodangal matrum thunai noigal</i> (Complication and associated diseases) 15.6.4 <i>Mukkuutra Verupadu</i> and <i>Envagai Thervu</i> (Derangement of humors and Siddha diagnostic tools) 15.6.5 <i>Noikanippu vivatham</i> (Differential diagnosis), <i>Munkanippu</i> (Prognosis), <i>Maruthuva Vazhi muraigal</i>(Treatment protocol) 15.6.5 <i>Pathiyam</i> and <i>unavu</i> (Diet regulation), <i>Noi thaduppu muraigal</i> (Prophylaxis or vaccination if available) 15.6.6 Modern diagnostic tools 15.6.7 Recent advances through research papers of <i>Perunkalichal</i> • M15U7 Kaduppukalichal (Bacillary dysentery) 15.7.1 <i>Iyal</i> (Definition), <i>Veru peyargal</i> (Synonyms), <i>Noi varum vazhi</i> (Etiopathogenesis) 15.7.2 <i>Murkurigunangal</i> (Premonitory symptoms), <i>Pothu kurigunangal</i> (Common clinical features) 15.7.3 <i>Theerum & Theera Nilai</i> (Curable & Incurable states), <i>Noi thodangal matrum thunai noigal</i> (Complication and associated diseases) 15.7.4 <i>Mukkuutra Verupadu</i> and <i>Envagai Thervu</i> (Derangement of humors and Siddha diagnostic tools) 15.7.5 <i>Noikanippu vivatham</i> (Differential diagnosis), <i>Munkanippu</i> (Prognosis), <i>Maruthuva Vazhi muraigal</i>(Treatment protocol) 15.7.6 <i>Pathiyam</i> and <i>unavu</i> (Diet regulation), <i>Noi thaduppu muraigal</i> (Prophylaxis or vaccination if available) 15.7.7 Modern diagnostic tools 15.7.8 Recent advances through research papers of <i>Kaduppukalichal</i>					
16	M-16 Iya Noigal – 21 and Gastro intestinal diseases related to Iyam This module covers the Definition, Synonyms, Etiopathogenesis, Pre-monitory	2	10	20	30	60

symptoms, Clinical features, Types, Curable and Incurable states of *Iya noi* 21 and *Oozhi noi* with demonstration of their *Mukutra verupadu*, *Envagai thervu*, Line of treatment, Diet regulation, Lifestyle modifications, Modern diagnostic tools and related National Health programmes.

• **M16U1 Iya Noigal-I (Kapha diseases-I)**

16.1.1 *Erumal Iyanoi, Kasa Iyanoi, Swasam Iyanoi, Theebanam Iyanoi, Mantham Iyanoi, Vali Iyanoi, Azhal Iyanoi-Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis)

16.1.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features)

16.1.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases)

16.1.4 *Mukutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools)

16.1.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol)

16.1.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available)

16.1.7 Modern diagnostic tools

16.1.8 Recent advances through research papers

• **M16U2 Iya Noigal-II (Kapha diseases-II)**

16.2.1 *Mukkoottu Iyanoi, Sugasanni Iyanoi, Sura Iyanoi, Athisaara Iyanoi, Neerkovai Iyanoi, Anal Iyanoi, Bootham Iyanoi- Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis)

16.2.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features)

16.2.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases)

16.2.4 *Mukutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools)

16.2.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis),

<i>Maruthuva Vazhi muraigal</i>(Treatment protocol) 16.2.6 <i>Pathiyam</i> and <i>unavu</i> (Diet regulation), <i>Noi thaduppu muraigal</i> (Prophylaxis or vaccination if available) 16.2.7 Modern diagnostic tools 16.2.8 Recent advances through research papers • M16U3 Iya Noigal-III (Kapha diseases-III) 16.3.1 <i>Muyalakan Iyanoi, Veri Iyanoi, Vigaaram Iyanoi, Suronitham Iyanoi, Viranam Iyanoi, Thurkantham Iyanoi, Nithiyam Iyanoi- Iyal</i> (Definition), <i>Veru peyargal</i> (Synonyms), <i>Noi varum vazhi</i> (Etiopathogenesis) 16.3.2 <i>Murkurigunangal</i> (Premonitory symptoms), <i>Pothu kurigunangal</i> (Common clinical features) 16.3.3 <i>Theerum & Theera Nilai</i> (Curable & Incurable states), <i>Noi thodangal matrum thunai noigal</i> (Complication and associated diseases) 16.3.4 <i>Mukutra Verupadu</i> and <i>Envagai Thervu</i> (Derangement of humors and Siddha diagnostic tools) 16.3.5 <i>Noikanippu vivatham</i> (Differential diagnosis), <i>Munkanippu</i> (Prognosis), <i>Maruthuva Vazhi muraigal</i>(Treatment protocol) 16.3.6 <i>Pathiyam</i> and <i>unavu</i> (Diet regulation), <i>Noi thaduppu muraigal</i> (Prophylaxis or vaccination if available) 16.3.7 Modern diagnostic tools 16.3.8 Recent advances through research papers • M16U4 Oozhi Noi (Cholera) 16.4.1 <i>Iyal</i> (Definition), <i>Veru peyargal</i> (Synonyms), <i>Noi varum vazhi</i> (Etiopathogenesis) 16.4.2 <i>Murkurigunangal</i> (Premonitory symptoms), <i>Pothu kurigunangal</i> (Common clinical features) 16.4.3 <i>Theerum & Theera Nilai</i> (Curable & Incurable states), <i>Noi thodangal matrum thunai noigal</i> (Complication and associated diseases) 16.4.4 <i>Mukutra Verupadu</i> and <i>Envagai Thervu</i> (Derangement of humors and Siddha diagnostic tools) 16.4.5 <i>Noikanippu vivatham</i> (Differential diagnosis), <i>Munkanippu</i> (Prognosis), <i>Maruthuva Vazhi muraigal</i>(Treatment protocol)				
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	16.4.6 <i>Pathiyam</i> and <i>unavu</i> (Diet regulation), <i>Noi thaduppu muraigal</i> (Prophylaxis or vaccination if available) 16.4.7 Modern diagnostic tools 16.4.8 Recent advances through research papers of <i>Oozhi Noi</i>					
		4	20	40	60	120
		16	80	160	240	480
Paper No : 3 (Siddhar Maruthuvam with Applied Pharmacotherapeutics)						
Semester No : 3						
2A Modu le Nu mber	2B Modules & units	2C Num ber of Credi ts	Notional Learning hours			
			2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
17	M-17 Essentials of Traditional Siddha therapeutics This module contains detailed description about traditional Siddha manufacturing practices and concept of <i>Maruthuvam</i> in <i>Thirumanthiram</i>. • M17U1 Introduction to Traditional Siddha practices 17.1.1. Definition & components of traditional siddha practices 17.1.2. Application of medicines related to <i>Suvai</i> - Types, <i>Migu kurai gunam</i> ; <i>Veeriyam</i> - types; <i>Vibaagam</i> ; <i>Mukuttram</i> - <i>Vali</i> , <i>Azhal</i> , <i>Iyam migu kurai gunam</i> , <i>Naadi nadai</i> ; <i>Iympootham</i> - <i>Mann</i> , <i>Neer</i> , <i>Thee</i> , <i>Vaayu</i> , <i>Agaayam migu kurai gunam</i> 17.1.3.Ethno medicine.	2	10	20	30	60

	• M17U2 Components of traditional Siddha therapeutics and Maruthuvam in Thirumanthiram comparison with genomic studies 17.2.1. <i>Maruthuva paadalgal</i> in <i>Thirumanthiram</i> 17.2.2. Single herbal medicines 17.2.3. Poly herbal medicines 17.2.4. Herbo mineral preparations 17.2.5. Classification of medicines according to <i>Arusuva</i> 17.2.6. <i>Vali, Azhal, Iya, Mukkutra yaakkai nilaigal</i>. • M17U3 Special features of Siddha manufacturing practices according to Yugi concept. 17.3.1. Classification of diseases according to <i>Yugi</i> 17.3.2. Classification of diseases according to <i>Agathiyar, Sarabenthirar, Theraiyar</i> and <i>Bogar</i> 17.3.3. Siddha manufacturing practices - Yugi's concept					
18	M-18 Basic concepts of Siddha therapeutics This module contains the detailed description about the basic principles of Siddha therapeutics, <i>Iympootha</i> theory , <i>Mukkutram</i> and <i>Arusuvaigal</i> • M18U1 Basic principles and practices of Siddha therapeutics 18.1.1. <i>Iympootha pancheekaranam</i> 18.1.2. Relation between <i>Iympootham</i>, <i>Mukkutram</i> and <i>Arusuvaigal</i> 18.1.3. <i>Sadhaga naadi paadalgal</i> 18.1.4. Medicine selection according to <i>Naadi nadai</i> • M18U2 Iympootha theory and its description 18.2.1. <i>Iympootha thathuvam</i> according to various concepts 18.2.2. Classification of drugs according to <i>Iympootha thathuvam</i> in Siddha literatures. • M18U3 Triad of Iympootham, Mukkutram and Aru suvaigal 18.3.1. Effects of deranged <i>Iympootham</i> in <i>Mukkutram</i>	2	10	20	30	60

	18.3.2. Constituents of <i>Iympootham</i> in <i>Inippu suvai</i> 18.3.3. Constituents of <i>Iympootham</i> in <i>Pulippu suvai</i> 18.3.4. Constituents of <i>Iympootham</i> in <i>Uppu suvai</i> 18.3.5. Constituents of <i>Iympootham</i> in <i>Kaippu suvai</i> 18.3.6. Constituents of <i>Iympootham</i> in <i>Kaarppu suvai</i> 18.3.7. Constituents of <i>Iympootham</i> in <i>Thuvvarppu suvai</i> 18.3.8. Relationship between <i>Iympootham</i> , <i>Mukutram</i> and <i>Arusuvaigal</i>					
		4	20	40	60	120
Semester No : 4						
2A Modu le Nu mber	2B Modules & units	2C Num ber of Credi ts	Notional Learning hours			
			2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
19	M-19 Types of Internal medicines and its description This module contains detailed description of 32 types of internal medicines, its shelf life and various administration modes. • M19U1 List of internal medicines as per Theraiyar, Agathiyar, Bogar 19.1.1.32 types of Internal medicines <i>Chaarur, Surasam, Kudineer, Utkali, Adai</i> 19.1.2. <i>Theraiyar</i>	2	10	20	30	60

	19.1.3. <i>Agathiyar</i> 19.1.4. <i>Bogar</i> 19.1.5. Comparative analysis of different school of thoughts of above Siddhars. • M19U2 Status, Stability and Shelf life of Internal medicines, Administration modes of internal medicine 19.2.1. Physical characteristics of internal medicines. 19.2.2. Assessment of shelf life of various internal medicines. 19.2.3. Different modes of administration of internal medicines. 19.2.4. Retro analysis of internal medicines as per literatures. • M19U3 Comparative analysis of Siddha Medicines according to Anuboga vaidhiya navaneetham and Noigalukku Siddha parigaram, Agathiyar paripooranam (Herbal, Polyherbal, Herbo mineral preparations) 19.3.1. Different components of preparing medicines according to above texts. Single herbs - Combination of Herbs - Herbals along with minerals and animal origin 19.3.2. Comparative analysis and selection of drugs according to imbalance of <i>Mukkutram</i>					
20	M-20 Biotransformation of Siddha Medicines This module gives a detailed description of 7 <i>Udal thathukkal</i> (7 Physical Constituents) and its <i>Migu, Kurai gunam</i> (Increased and Decreased features) and transformation of medicines in 7 <i>Udal thathukkal</i> (7 Physical Constituents). • M20U1 Basic concepts of ezhu udalkattukkal (7 Physical Constituents) and its role and Biotransformation on Udalkattugal	2	10	20	30	60

20.1.1. Concepts of 7 <i>Udal thaathukal</i> (7 Physical Constituents) 20.1.2. <i>Saaram</i> (Nutrient juice) 20.1.3. <i>Senneer</i> (Blood) 20.1.4. <i>Oon</i> (Muscle) 20.1.5. <i>Kozhuppu</i> (Fat and Adipose tissue) 20.1.6. <i>Enbu</i> (Bone and Teeth) 20.1.7. <i>Moolai</i> (Bone Marrow and Nervous tissue) 20.1.8. <i>Sukkilam/Suronitham</i> (Semen / Ovum) 20.1.9. Imbalance of 7 <i>Udal thaathukal</i> (7 Physical Constituents) and its reflection • M20U2 Saaram (Nutrient juice), Senneer (Blood) and Oon (Muscle). 20.2.1. <i>Saaram</i> (Nutrient juice) <i>migu</i> and <i>kurai gunam</i> (Increased and Decreased features) 20.2.2. <i>Senneer</i> (Blood) <i>migu</i> and <i>kurai gunam</i> (Increased and Decreased features) 20.2.3. <i>Oon</i> (Muscle) <i>migu</i> and <i>kurai gunam</i> (Increased and Decreased features) 20.2.4. <i>Siddhar seer sei maruthuvam</i> for deranged <i>Saaram</i> (Nutrient juice), <i>Senneer</i> (Blood) and <i>Oon</i> (Muscle) • M20U3 Kozhuppu (Fat and Adipose tissue), Enbu (Bone and Teeth), Moolai (Bone Marrow and Nervous tissue), Sukkilam/ Suronitham (Semen / Ovum). 20.3.1. <i>Kozhuppu</i> (Fat and Adipose tissue) <i>Migu</i> and <i>kurai gunam</i> (Increased and Decreased features) 20.3.2. <i>Enbu</i> (Bone and Teeth) <i>Migu</i> and <i>kurai gunam</i> (Increased and Decreased features) 20.3.3. <i>Moolai</i> (Bone Marrow and Nervous tissue) <i>Migu</i> and <i>kuraigunam</i> (Increased and Decreased features) 20.3.4. <i>Sukkilam/Suronitham</i> (Semen / Ovum) <i>Migu</i> and <i>kurai gunam</i> (Increased and Decreased features) 20.3.5. <i>Siddhar seer sei maruthuvam</i> for deranged <i>Kozhuppu</i> (Fat and Adipose tissue) , <i>Enbu</i> (Bone and Teeth), <i>Moolai</i> (Bone Marrow and Nervous tissue), <i>Sukkilam/ Suronitham</i> (Semen / Ovum).					
	4	20	40	60	120

Semester No : 5						
2A Module Number	2B Modules & units	2C Number of Credits	Notional Learning hours			
			2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
21	M-21 Essentials of Peru marunthugal (Siddha Higher order Medicines and Vallathy Maruthuvam) This module explains <i>Siddha Peru Marunthugal</i> (Higher order medicines) like <i>Kattu, Kalangu, Pathangam</i> and its uses in debilitating illness and medicines containing <i>Serankottai</i> as main ingredient. • M21U1 List of Peru Marunthugal (Higher order medicines) as per Theraiyar, Agathiyar, Bogar 21.1.1. Classification of <i>Peru Marunthugal</i> (Higher order medicines) 21.1.2. Long durable higher proficiency nano medicines like <i>Kattu, Kalangu, Pathangam</i> etc. 21.1.3. <i>Pachai vettu maruthuvam</i> 21.1.4. Comparison between <i>Pachai vettu maruthuvam</i> and chemotherapy • M21U2 Traditional concepts, Practices of Peru Marunthugal (Higher order medicines) and Utility of higher order medicine in debilitating illness 21.2.1. Practice and precaution of utility of <i>Peru Marunthugal</i> (higher order medicines) in clinical practice 21.2.2. Concepts of <i>Udal thathukkal</i> (7 Physical constituents) in debilitating illness. 21.2.3. <i>Siddhar seer sei maruthuvam</i> on debilitating illness.	2	10	20	30	60

	• M21U3 Vallathy maruthuvam 21.3.1. <i>Vallathy maruthuvam</i> - concepts of potency , characters of Vallathy. 21.3.2. <i>Vallathy</i> medicines in clinical practice. 21.3.3. Dietary regulations of <i>Vallathy maruthuvam</i> . 21.3.4. <i>Vallathy maruthuvam</i> for <i>vippuruthi noi</i>					
22	M-22 General Pharmacology This module explains about Pharmacodynamics, Pharmacokinetics, Pharmacovigilance and drug development. • M22U1 General Pharmacology 22.1.1. Definition 22.1.2. Principles of pharmacology 22.1.3. Sources of drugs 22.1.4. Chemical properties of drugs 22.1.5. Biological effects of drugs 22.1.6. Various dosage forms 22.1.7. Routes of drug administration • M22U2 Pharmacokinetics and Pharmacodynamics 22.2.1. Transport of Drugs 22.2.2. Absorption 22.2.3. Bioavailability 22.2.4. Equivalence 22.2.5. Distribution 22.2.6. Biotransformation 22.2.7. Enzyme induction 22.2.8. Excretion 22.2.9. Therapeutic drug monitoring 22.2.10. Mechanism of drug action 22.2.11. Receptor	2	10	20	30	60

	22.2.12. Dose response relationship 22.2.13. Drug synergism and antagonism 22.2.14. Factors that modify the effects of drugs 22.2.15. Adverse drug reactions 22.2.16. Drug allergy 22.2.17. Drug overdosage • M22U3 Drug development, Pharmacovigilance, Drug Regulation and Drug and Cosmetic Act. 22.3.1. Drug development 22.3.2. Pharmacovigilance 22.3.3. Chronopharmacology 22.3.4. Drug regulations 22.3.5. Essentials from Drugs and cosmetic act 22.3.5.1 Introduction and Definition 22.3.5.2 Administration of the Act and Rule 22.3.5.3 Provisions related to Manufacture, Sale & Distribution of drugs and cosmetics 22.3.5.4 Provisions related to Ayurvedic, Siddha & Unani drugs 22.3.5.5 Schedules to the act and rules					
		4	20	40	60	120

Semester No : 6

2A Module Number	2B Modules & units	2C Number of Credits	Notional Learning hours			
			2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total

23	M-23 Systemic Pharmacology This module explains about various drugs acting on Cardiovascular, Respiratory, Renal, Gastro intestinal and Nervous system. • M23U1 Autonomic Nervous System and Central Nervous System 23.1.1. Adrenergic drugs 23.1.2. Cholinergic and Anti cholinergic drugs 23.1.3. Skeletal muscle relaxants 23.1.4. Sedative drugs 23.1.5. Anti epileptic drugs 23.1.6. Drugs used in Neurodegenerative disorders 23.1.7. Drugs used in Psychiatric disorders 23.1.8. Anti depressants and Mood stabilizers 23.1.9. Opioid analgesics and Antagonists 23.1.10. Alcohols 23.1.11. Central Nervous System (CNS) stimulants and Drugs of abuse. • M23U2 Drugs acting on kidney and Drugs acting on the intestinal tract 23.2.1. Diuretics and Anti diuretics 23.2.2. Drugs used in Peptic ulcer and Gastro Esophageal Reflux Disease (GERD) 23.2.3. Emetics, Antiemetics and Prokinetic Agents 23.2.4. Drugs for Constipation, Diarrhoea, Irritable Bowel Syndrome (IBS), Inflammatory Bowel Disease (IBD), Biliary and Pancreatic diseases • M23U3 Drugs acting on cardiovascular system and Drugs acting on the Respiratory System 23.3.1. Renin-Angiotensin-Aldosterone system and other vasoactive peptides. 23.3.2. Calcium channel blockers 23.3.3. Anti hypertensive drugs and drugs used in shock 23.3.4. Treatment of cardiac failure 23.3.5. Drugs used in Ischaemic Heart Disease	2	10	20	30	60
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	23.3.6. Hypolipidaemic drugs 23.3.7. Drugs used in the treatment of Bronchial asthma, Chronic Obstructive Pulmonary Disease (COPD) and Cough					
24	M-24 Experimental and Clinical Pharmacology This modules gives detailing about genomics, Biomarkers Biochemical changes etc. • M24U1 Experimental pharmacology 24.1.1. Limitations of animal tests 24.1.2. Toxicity studies 24.1.3. Bioassay 24.1.4. General screening 24.1.5. Genetic variations 24.1.6. Bio markers • M24U2 Clinical pharmacology 24.2.1. Clinical trials 24.2.2. Ethical aspects 24.2.3. Guidelines of research integrity 24.2.4. Good Clinical Practice (GCP) 24.2.5. Entrepreneurship ideas and funding agencies 24.2.6. In-vitro and In-silico studies	2	10	20	30	60
		4	20	40	60	120
		16	80	160	240	480
Paper No : 4 (Recent Advances in Medicine)						
Semester No : 3						
2A	2B	2C	Notional Learning hours			

Module Number	Modules & units	Number of Credits	2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
25	M-25 Emergency Medicine & Respiratory Medicine This module deals with comprehensive knowledge of Emergency medicine including causes and analysis of emergency conditions and types of poisons and approaches to the patients it also covers the interpretation of CPR, emergency ECG, Chest X-ray, and Abdominal X-ray. This module also deals with respiratory medicine including etiopathogenesis, clinical manifestations, diagnosis, complications and special investigations of respiratory diseases. • M25U1 Basics of Emergency Care 25.1.1 History, clinical examination and diagnosis in emergency care 25.1.2 Triage & medicolegal aspects in emergency 25.1.3 Art of communication in an emergency 25.1.4 Trauma and burns care 25.1.5 Cardiopulmonary resuscitation (CPR) and cardiac arrest • M25U2 Systemic Emergency 25.2.1 Cardiac emergency 25.2.2 Respiratory emergency 25.2.3 Abdominal emergency 25.2.4 Neurological emergency • M25U3 Toxicology and poisoning Contents: 25.3.1 Poisoning and Presentation 25.3.2 Snakebite and Presentation	2	10	20	30	60

	• M25U4 Essentials of respiratory system 25.4.1 Applied anatomy and function of respiratory system 25.4.2 History, clinical examination of respiratory system 25.4.3 Investigations of respiratory system • M25U5 Diseases of respiratory system 25.5.1 Asthma 25.5.2 Chronic Obstructive Pulmonary Disease (COPD) 25.5.3 Bronchiectasis, lung abscess, cystic fibrosis 25.5.4 Pleural diseases - pleural effusion, pneumothorax, hydropneumothorax					
26	M-26 Cardiology This module deals with the knowledge of various cardiovascular diseases including Heart failure, Ischemic heart diseases, Valvular Heart diseases, Congenital heart diseases and Hypertension in the aspect of clinical history taking, clinical manifestations, complications, relevant investigations like ECG, and engages the students with interactive case studies to enhance their ability to diagnose cardiovascular diseases. • M26U1 Essentials of Cardiology 26.1.1 Functional anatomy and physiology of cardiovascular system 26.1.2 Clinical examination of the cardiovascular system 26.1.3 Investigation of cardiovascular disease • M26U2 Congenital Heart Disease 26.2.1 Patent ductus arteriosus (PDA) 26.2.2 Coarctation of the aorta (CoA) 26.2.3 Atrial septal defect (ASD) 26.2.4 Ventricular septal defect (VSD) 26.2.5 Tetralogy of fallot • M26U3 Acquired diseases of the heart 26.3.1 Heart failure	2	10	20	30	60

	26.3.2 Ischemic heart disease 26.3.3 Valvular heart disease 26.3.4 Arrhythmia • M26U4 Hypertension 26.4.1 Definition of Hypertension 26.4.2 Causes of Hypertension 26.4.3 Approach to newly diagnosed Hypertension 26.4.4 Measurement of Blood Pressure 26.4.5 History taking and examination 26.4.6 Target organ damage					
		4	20	40	60	120
Semester No : 4						
2A Modu le Nu mber	2B Modules & units	2C Num ber of Credi ts	Notional Learning hours			
			2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
27	M-27 Diseases of Respiratory System This module deals with the comprehensive knowledge of diseases of Central nervous system including infective diseases of CNS, epilepsy, Cardio vascular attack, neurodegenerative diseases. It elaborates the understanding of the causes, classification, pathogenesis, clinical features, stages, complications, investigations and various differential diagnosis of diseases of Central nervous system.	2	10	20	30	60

	• M27U1 Essentials of Neurology 27.1.1 Applied Anatomy and pathophysiology of Neurology 27.1.2 History, Clinical examination and diagnosis in the Central Nervous System. 27.1.3 Investigations for Neurological disorders. • M27U2 Infective Disease of CNS and Epilepsy 27.2.1 Meningitis 27.2.2 Encephalitis 27.2.3 Brain abscess 27.2.4 Neurosyphilis 27.2.5 Acute transverse myelitis 27.2.6 Seizures and Epilepsy • M27U3 Cerebrovascular Accident 27.3.1 Causes of Cerebrovascular accident (CVA) 27.3.2 History taking and clinical presentation 27.3.3 Differentiate the Upper Motor Neuron and Lower Motor Neuron lesions 27.3.4 Complications and diagnostic investigations for Cerebrovascular Accident (CVA) • M27U4 Neurodegenerative Diseases 27.4.1 Parkinson Disease 27.4.2 Alzheimer's Disease (Primary degenerative dementia) 27.4.3 Amyotrophic Lateral sclerosis 27.4.4 Multiple sclerosis • M27U5 Disorders of Muscle & Myasthenia Gravis 27.5.1 Muscular dystrophies 27.5.2 Muscular hypertrophies 27.5.3 Myasthenia gravis					
28	M-28 Haematology and nutritional deficiencies This module deals with the comprehensive knowledge of anaemia, bleeding disorders, clotting disorders and nutritional deficiencies. It facilitates to	2	10	20	30	60

utilisation of the results of outcome studies to evaluate the effectiveness of patient care, disease prevention and screening in regard to patients with anaemia and nutritional deficiencies and engages the students with interactive case studies to enhance their ability to diagnose

• M28U1 Essentials of Haematology

28.1.1 Functional anatomy and physiology of blood cells

28.1.2 Clinical examination in blood diseases

28.1.3 Investigations of blood diseases

• M28U2 Anemia

28.2.1 General approach to anemia

28.2.2 Iron deficiency anemia

28.2.3 Megaloblastic anemia

28.2.4 Haemolytic anemia

28.2.5 Sickle cell anemia

28.2.6 Thalassaemia

• M28U3 Bleeding and Clotting Disorders

28.3.1 Ehlers-Danlos disease

28.3.2 Hereditary haemorrhagic telangiectasia

28.3.3 Scurvy

28.3.4 Idiopathic thrombocytopenic purpura

28.3.5 Haemophilia A

28.3.6 Haemophilia B (Christmas disease)

28.3.7 Von willibrand disease

28.3.8 Thrombotic thrombocytopenic purpura

• M28U4 Essentials of Diet and Nutrition

28.4.1 Clinical signs due to nutritional deficiency

28.4.2 Assessment of nutritional status by dietary history

28.4.3 Assessment of nutritional status by clinical examination

28.4.4 Assessment of nutritional status by Laboratory test

• M28U5 Nutritional Deficiencies

28.5.1 Protein-energy malnutrition

	28.5.2 Marasmus 28.5.3 Kwashiorkor 28.5.4 Introduction to Vitamin deficiency 28.5.5 Beri-Beri 28.5.6 Pellagra 28.5.7 Xerophthalmia 28.5.8 Night blindness 28.5.9 Mineral deficiency 28.5.10 Micronutrient Deficiency					
		4	20	40	60	120
Semester No : 5						
2A Modu le Nu mber	2B Modules & units	2C Num ber of Credi ts	Notional Learning hours			
			2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
29	M-29 Rheumatology and Endocrinology This module deals with the comprehensive knowledge of aetiology, pathophysiology, clinical features, investigations and complications of Rheumatological disorders including SLE, Rheumatoid Arthritis, Reactive arthritis, Ankylosing spondylitis, Osteoarthritis, Gout, Pseudogout. This module also deals with the diseases of endocrinology including Hyperthyroidism, Hypothyroidism and goiter, Hypo parathyroidism and Hyper parathyroidism, Cushing's Syndrome, Addison's Disease, Hyperaldosteronism and	2	10	20	30	60

	Phaeochromocytoma elaborately. • M29U1 Essentials of Rheumatology 29.1.1 Applied Anatomy and pathophysiology of rheumatology 29.1.2 History, Clinical examination of the musculoskeletal system. 29.1.3 Investigations of Rheumatological disorders. • M29U2 Rheumatological Disorders 29.2.1 Systemic lupus erythematosus 29.2.2 Rheumatoid Arthritis, Reactive arthritis 29.2.3 Ankylosing spondylitis, Osteoarthritis 29.2.4 Gout, Pseudogout • M29U3 Thyroid and Adrenal Diseases 29.3.1 Hyperthyroidism, Hypothyroidism and goiter 29.3.2 Hypo parathyroidism and Hyper parathyroidis 29.3.3 Cushing's Syndrome 29.3.4 Addison's Disease 29.3.5 Hyperaldosteronism and Phaeochromocytoma • M29U4 Diabetes Mellitus and Obesity 29.4.1 Type 1 Diabetes 29.4.2 Type 2 Diabetes 29.4.3 Diabetic ketoacidosis 29.4.4 Hyperglycemic hyperosmolar state 29.4.5 Gestational Diabetes 29.4.6 Complications of Diabetes 29.4.7 Hypoglycaemia 29.4.8 Diabetic foot 29.4.9 Obesity					
30	M-30 Infectious Diseases, Nephrology and Reproductive system This module deals with comprehensive knowledge of infectious diseases	2	10	20	30	60

including bacterial, viral, fungal, protozoa and helminths infections. It also deals with renal disorders including acute renal failure, chronic kidney disease, glomerular diseases, renal tubular diseases, nephrolithiasis and urinary tract infections elaborately and describes the appropriate use of diagnostic testing in patients with renal disorders. It explains how to apply the principles of biology, epidemiology, management and public health to control infectious diseases. It also explains the causes of male and female infertility, necessary investigations and lifestyle modification to manage the health condition.

• **M30U1 Essentials of Infections**

30.1.1 General consideration of bacterial, viral, fungal, protozoa, helminthes infections

30.1.2 Diagnostic features of infectious disease

30.1.3 Differential diagnosis of infectious disease

30.1.4 Infections during pregnancy

30.1.5 Infection prevention and control

• **M30U2 Infectious Disease**

30.2.1 Bacterial infections – Brucellosis, Leptospirosis, Enteric fever, Syphilis, Bacillary dysentery, Cholera, Diphtheria, Leprosy

30.2.2 Viral infections – Measles, Mumps, Rubella, Chickenpox, Herpes zoster, Mumps, influenza, epstein barr virus, cytomegalovirus, dengue,

30.2.3 Yellow fever, Small pox, Japanese B encephalitis

	30.2.4 Fungal infections – Candidiasis, Tenia corporis, Tenia cruris, Tenia pedis 30.2.5 Protozoa infections – Malaria, Kala azar, Amoebiasis 30.2.6 Helminthes infections - Intestinal worms, Filariasis • M30U3 Essentials of Nephrology 30.3.1 Functional anatomy and physiology of kidney and urinary tract 30.3.2 Clinical Examination of the kidney and urinary tract 30.3.3 Investigation of renal and urinary tract disease 30.3.4 Renal complications of radiological investigations 30.3.5 Presenting problems in renal and urinary tract diseases • M30U4 Renal Disorders and Reproductive Diseases 30.4.1 Acute renal failure 30.4.2 Chronic kidney disease 30.4.3 Glomerular diseases, Renal tubular diseases 30.4.4 Male and female infertility 30.4.5 Nephrolithiasis 30.4.6 Urinary tract infections					
		4	20	40	60	120
Semester No : 6						
2A Modu le Nu mber	2B Modules & units	2C Num ber of Credi ts	Notional Learning hours			
			2D Lectures	2E Practical Training	2F Experiential Learning including Modular Assessment	2G Total
31	M-31 Gastrointestinal disorders	2	10	20	30	60

This module deals with extensive knowledge about the diseases of Gastrointestinal tract diseases including diseases of the elementary tract and diseases of the Liver, Gall bladder and spleen. This module facilitates to evaluate, and assess medical information and scientific literature about important gastrointestinal diseases and describes the appropriate use of diagnostic testing in patients with gastrointestinal disorders

- **M31U1 Essentials of Gastrointestinal Disease**

31.1.1 Applied Anatomy and pathophysiology of gastrointestinal diseases

31.1.2 History, causes, clinical features, complications, Clinical examination of the Gastrointestinal tract diseases.

31.1.3 Common Investigations of gastrointestinal diseases.

- **M31U2 Essentials of Liver, Gall Bladder and Pancreas**

31.2.1 Gastro Esophageal reflux disease (GERD)

31.2.2 Carcinoma of Esophagus

31.2.3 Gastritis

31.2.4 Peptic ulcer

31.2.5 Duodenal ulcer

31.2.6 Inflammatory bowel diseases and Ulcerative colitis

- **M31U3 Diseases of Liver, Gall Bladder and Pancreas**

	31.3.1 Applied Anatomy and pathophysiology of Liver, Gall bladder and pancreas 31.3.2 General examination of Liver, Gall bladder and pancreas 31.3.3 History, causes, clinical features, complications of the diseases of Liver, Gall bladder and pancreas. 31.3.4 Common investigations for Liver, Gall bladder and pancreas associated diseases • M31U4 Diseases of Liver, Gall Bladder and Pancreas 31.4.1 Hepatitis (B,C) 31.4.2 Chronic Hepatitis 31.4.3 Cirrhosis 31.4.4 Hepatic failure 31.4.5 Hepatic carcinoma 31.4.6 Cholelithiasis 31.4.7 Acute and chronic Cholecystitis 31.4.8 Cholangitis 31.4.9 Secondary biliary cirrhosis 31.4.10 Biliary atresia 31.4.11 Acute pancreatitis, Chronic pancreatitis 31.4.12 Carcinoma of pancreas					
32	M-32 Oncology & Geriatrics This module deals with an extensive understanding of oncology including Common symptoms, Clinical examination, risk factors, investigations, and preventive measures of various cancers and it describes the interpretation of screening methods in patients. It also deals with geriatric care, elaborate understanding and management of general health problems in geriatric patients • M32U1 Essentials of Oncology 32.1.1 Basic biology of cells, etiology and epidemiology of various cancer 32.1.2 Classification and location of cancer	2	10	20	30	60

32.1.3 Clinical examination and cancer screening methods 32.1.4 Basic science of cancer diagnostics, detection and prevention • M32U2 Organ Specific Cancer 32.2.1 General approach to various types of organ specific cancer 32.2.2 Common symptoms, Clinical examination, screening methods, investigations, preventive measures of various cancer 32.2.3 Oral cancer 32.2.4 Lung cancer 32.2.5 Cervical and Ovarian cancer 32.2.6 Prostate cancer 32.2.7 Breast cancer 32.2.8 Colorectal cancer • M32U3 Essentials of Geriatric Care 32.3.1 5 M's of geriatric care (Medications, Mind, Mobility, Multi complexity and matters most) 32.3.2 Management of general health problems 32.3.3 Care for sensory and nervous systems of geriatric people 32.3.4 Counselling, Diet advice and common medical advice • M32U4 Common Geriatric Problems 32.4.1 Chronic conditions include diabetes, osteoporosis, Alzheimer's, dementia, and Parkinson's disease 32.4.2 Sleep disturbances 32.4.3 Hearing and vision loss as a part of normal aging. 32.4.4 Oral health issues like tooth loss, root decay, gum disease, dry mouth					
	4	20	40	60	120
	16	80	160	240	480
	64	320	640	960	1920

Table 3 : Modules - Unit - Module Learning Objectives and Session Learning Objective- Notional Learning Hours- Domain-Level- TL Methods

Paper No : 1 Principles and Practice of Siddha Maruthuvam - Vali Noigal and Putru Noi (Siddha Oncology)						
Semester No : 3						
3A Course Outcome	3B Learning Objective (At the end of the (lecture/practical training /experiential learning) session, the students should be able to)	3C Notional learning Hours	3D Lecture/ Practical Training/ Experientia l Learning	3E Domain/ Sub Domain	3F Level (D oes/Sho ws how/ Knows h ow/Kno w)	3G Teachin g Learnin g Methods
Module 1 : General consideration of Vali Noigal on the basis of Siddha Principles						
Module Learning Objectives (At the end of the module, the students should be able to) Describe the basic physiology of <i>Vali thathu</i>, its characteristic features in alterations like <i>Thannilai valarchi</i> (Insitu escalation), <i>Vetrunilai valarchi</i> (Ectopic escalation) and <i>Thannilai adaithal</i> (Restitution), Pathological implications of <i>Vali kuttram</i> in permutation and combinations with other kuttrams and its potential in manifesting clinical features of the disease. Conduct the common and specific Siddha diagnostic procedures like <i>Envagai thervu</i>, <i>Neikuri</i> to interpret the diagnosis, <i>Noiyin pokku</i> (prognosis) and to plan specific line of treatment for the disease. Identify the various diagnostic tools available in contemporary systems of Medicine, Siddha diagnostic software programme, Modern techniques and equipments to support the Siddha Interpretations.						
M 1 Unit 1 Basic functioning and pathological changes of Vali humour. 1.1.1. <i>Vaazhumidam</i> (Predominant location), <i>Vadivam</i> (Shape), <i>Thanmaigal</i> (Properties), <i>Vagaigal</i> (Types) and <i>Thozhil</i> (function) of Vali humour 1.1.2. Illustration the features of <i>Vali thathu</i> including <i>Migu gunam</i> (augmenting features), <i>Kurai gunam</i> (diminishing features), <i>Thannilai valarchi</i> (Insitu escalation), <i>Vetrunilai valarchi</i> (Ectopic escalation) and <i>Thannilai adaithal</i> (Restitution).						

- 1.1.3. *Vali vanmai adaiyum pothu undagum gunangal* (Qualities due to thriving *Vali*) & *Vanmai adaintha valikuttrathai neekum gunangal* (Antagonistic qualities to balance the thrived *Vali*),
- 1.1.4. Role of *Vali thathu* in derangement of 14 *Vegangal* (Natural urges),
- 1.1.5. General outward appearance of *Vali* in physiological and pathological state,
- 1.1.6. Disclosure of *Vali* in five *kosams*.
- 1.1.7. Relation with diet and seasonal variations.

References: 2,7,19,46

3A	3B	3C	3D	3E	3F	3G
CO1	Describe in detail about the <i>Vaazhumidam</i> (Predominant location), <i>Vadivam</i> (Shape), <i>Thanmaigal</i> (Properties) of <i>Vali thathu</i> , <i>VagaigalinThozhilgal</i> (functions of subtypes), <i>Vali Migu gunam</i> & <i>Kurai gunam</i> (influence of augmenting and diminishing features of <i>Vali</i> humour) upon various organs.	2	Lecture	CK	Knows-how	L&PPT
CO1	Elaborate the practical utility in <i>Thannilai valarchi</i> (Insitu escalation), <i>Vetrunilai valarchi</i> (Ectopic escalation) and <i>Thannilai adaithal</i> (Restitution) of <i>Vali Thathu</i> .	1	Lecture	CK	Knows-how	L&GD
CO1	Conduct a discussion on the <i>Vali vanmai adaiyum pothu undagum gunangal</i> (qualities due to thriving <i>Vali</i>) & <i>Vanmaiya neekum ethir gunangal</i> (Antagonistic qualities to balance the thrived <i>Vali</i>), Role of <i>Vali</i> in derangement of <i>Pathinangu vegankal</i> (14 Natural urges), General outward appearance of <i>Vali</i> in physiological and pathological state and Disclosure of <i>Vali</i> in five <i>kosams</i> .	6	Practical Training 1.1	PSY-MEC	Shows-how	TBL,PER,DIS,D-BED,CBL
CO1	Construct a flow chart of <i>Vali Thathu</i> showing its normal seat anchor, its movement channels, Seasonal and dietary influence, permutation, combination of other thathus and its fate in the human body.	4	Experiential-Learning 1.1	PSY-ORG	Does	PAL,PER,DIS,TBL
CO1,CO5	Design dietary and lifestyle plan (<i>Pathiyam</i>) to combat the seasonal influence of <i>Vali thathu</i> .	4	Experiential-Learning 1.2	PSY-GUD	Shows-how	TBL,CBL,PER

M 1 Unit 2 Common diagnostic principles of Vali Noigal.

- 1.2.1. Physical examination based on manifestations of deranged *Vali* in *Udal thathukkal* (Physical Constituents) & 96 *thathuvu*s.
- 1.2.2. *Envagai thervu* (Siddha diagnostic tools)
- 1.2.3. *Neerkuri, Neikuri* (Character of Urine, Nature of froth in *Vali* deranged urine)
- 1.2.4. *Naadi* (Pulse reading)
- 1.2.5. *Saathiya & Asaathiya* features etc.

References: 2,3,4,5,7,46

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Describe the various Siddha diagnostic methods used in characterizing <i>Vali Noi</i> .	3	Lecture	CC	Knows-how	L&PPT
CO1,CO3	Demonstrate detailed physical examination of a patient with <i>Vali Noi</i> based on <i>Envagai thervu</i> and interpret the diagnosis and prognosis.	6	Practical Training 1.2	PSY-GUD	Shows-how	CBL,CD, TBL,D-BED
CO3	Interpret the <i>Saathiya & Asaathiya</i> (Curable & Incurable) features with Siddha principles like <i>Neikuri, Manikadai nool</i> etc.	4	Experiential-Learning 1.3	CAP	Does	CBL,PL, DIS
CO7	Demonstrate a Software / AI with interpretations of Siddha diagnostic tools and other contemporary techniques to help in diagnosis.	4	Experiential-Learning 1.4	PSY-GUD	Shows-how	TPW

M 1 Unit 3 Introduction to Vali Noigal in general

- 1.3.1. *Uruppugalai patri varum Vali Noigal* (Organs wise manifestations of *Valikuttram*),
- 1.3.2. *Noi varum vazhi* (Causes), *Noi undagum vitham* (Pathogenesis), *Murkurigunangal* (Premonitory symptoms), *Kurigunangal* (Symptoms & Signs), *Noi kanikkum muraigal* (Diagnostic principles), *Noiyinpokku* (Prognosis), *Maruthuva Vazhimurai* (Line of treatment) and *Pathiyam*.
- 1.3.3. Detailed literature review of classifications mentioned by various Siddhars and comparative study with other contemporary systems of medicine.

References: 1,2,4,7,19,20,28,31,32,34,41,44,58

3A	3B	3C	3D	3E	3F	3G
CO2	Evaluate and summarize the classification of <i>Vali Noigal</i> mentioned by various Siddhars like <i>Yugi</i> , <i>Kumbamuni</i> , <i>Pulipani</i> and others based on the primary organs involved	1	Lecture	CAN	Knows-how	L&GD
CO2	Review and compare the <i>Vali Noi</i> classifications mentioned by various Siddhars like <i>Yugi</i> , <i>Kumbamuni</i> , <i>Pulipani</i> etc.	2	Lecture	CC	Knows-how	L&GD
CO3,CO4	Elaborate the <i>Noi Varum Vazhi</i> (General causes), detailed <i>Mukutttraverupadu</i> (Pathogenesis), <i>Murkurigunangal</i> (Premonitory symptoms), <i>Sirappu Kurigunangal</i> (Specific symptoms & signs), <i>Pothu Kurigunangal</i> (Common characteristic features), specific characters of <i>Vali</i> affecting various organs, <i>Noiyin pokku</i> (Prognosis) & <i>Maruthuva Vazhimurai</i> (General line of treatment) of <i>Vali Noigal</i> mentioned by various siddhars.	1	Lecture	CC	Knows-how	L&PPT
CO4,CO7	Prepare a patient for examination and specific line of treatment of <i>Vali Noi</i> .	8	Practical Training 1.3	PSY-GUD	Shows-how	CBL,TBL
CO5	Describe the <i>Pathiya</i> , <i>Apathiya vithigal</i> for a patient with <i>Vali Noi</i> for effective Health education mentioned by various siddhars.	5	Experiential-Learning 1.5	PSY-ADT	Does	PER,TBL
CO4,CO6	Create a literature review on single herb and poly herbal preparations for various manifestations of <i>Vali Noigal</i> from various Siddhars text.	5	Experiential-Learning 1.6	PSY-ORG	Does	TBL,PrB L,LS

Practical Training Activity

Practical Training 1.1 : Clinical and Theoretical Correlation of *Vali kutram* in a patient.

Total duration of the activity is 6 Hours

Demonstration by teacher (2 hours).

Topic is declared on the previous day.

Topic 1: Justifying *Vali vanmai adaiyumbothu undaagum gunangal* (Qualities of thriving *Vali humour*) & *Valiyin vanmaiyai neekum ethir gunangal* (Antagonistic qualities to balance the thrived *Vali*) based on *Imbootha theory*.

Topic 2: Role of *Vali* in derangement of 14 *Vegangal* (Natural urges).

Topic 3: General outward appearance of *Vali* in physiological and pathological state

Topic 4: Disclosure of *Vali* in five *kosams*.

Discussions/Demonstration will be held by teacher in OPD/IPD. Initially each topic discussed separately and later related with each other

Students Presentation (4 hours)

Students are divided into small teams by the teacher

Each team is assigned 2 patients for practical application.

Students must:

Take a detailed history (medical, dietary, lifestyle, etc.)

Perform a Siddha-based clinical examination, with focus on *Vali*-related symptoms and patterns.

Apply concepts learned during demonstration to analyze and interpret the findings.

Finally, the students have to conclude the findings and present before the teacher.

Practical Training 1.2 : Clinical Application of *Envagai Thervu* in Siddha Diagnosis

Total duration of the activity is 6 Hours

Teacher has to demonstrate and assess the clinical findings using *Envagai Thervu* in multiple simulated OPD/IPD patients (1 hour)

Then teacher has to lead a session on:

- How to arrive at a diagnosis using *Envagai Thervu*
- How to predict prognosis based on Siddha literature (2 hours).

Students were instructed to collect case history, chief complaints, and duration and perform *Envagai Thervu* on assigned patients and formulate a diagnostic conclusion (1 hour).

Students should present their findings individually or in teams, including Diagnostic interpretation and Prognostic insight based on Siddha principles (2 hours).

Students should document all findings and interpretations and submit reports for teacher validation.

Practical Training 1.3 : Practical Training on *Vamanam*, *Virechanam*, and *Viyarvai* for *Vali Noigal*

Total duration of the activity is 8 Hours

Teacher should explain the line of treatments like *Vamanam* (Emetic therapy), *Viresanam* (Purgative therapy) & *Viyervai* (Steam therapy) for *Vali Noigal* (2 hour).

Students are divided into groups. Each group is given a patient /case scenario and instructed to prepare a treatment protocol (1 hour).

Students review the patient's medical and social history, and plan how to create a supportive environment for patient cooperation (1 hour)

Students explain the pre-procedure dietary and lifestyle guidelines to patients, applying their theoretical and practical knowledge (4 hours)

At the end of the activity each group submits a report on their case and treatment protocol for validation.

Experiential learning Activity

Experiential-Learning 1.1 : Understanding and Mapping *Vali thathu* in Health and Disease

Total duration of the activity is 4 Hours

Students are divided into few teams, and each team is assigned one or two sub topics.

Teams has to lists out and discuss the predominant location (*Vaazhumidam*) of the *Vali thathu* based on classical Siddha texts (1 hour).

Based on the knowledge acquired in theory and practical classes, Students were instructed to construct detailed flowcharts showing *Vali thathu* dynamics across diseases including:

- Normal seat (anchor) of *Vali*
- Movement channels
- Seasonal and dietary influences
- *Vali* permutations and pathological variations
- Interactions with other *Thathus* (*Azhal*, *Iyam*)
- Resultant fate in human physiology and pathology

Arrange for Presentation and Interaction session by displaying the flow charts (3 hours).

Experiential-Learning 1.2 : Seasonal Influence on *Vali Thathu* and Siddha Therapeutic Approaches

Total duration of the activity is 4 hours

Students are grouped into team and each team is assigned a specific season (Six seasons-*Siru pozhuthu*, *Perum pozhuthu*)

Instructed to create a chart depicting:(1 hour)

- Environmental changes during the specified season
- Corresponding manifestations in Mind, *Udal Thathus* and *Uyir Thathus*
- Specific effects on *Vali thathu*
- Dietary and lifestyle modifications to mitigate seasonal imbalances

Presentation session by teams following:(2 Hours).

- Line of treatment applicable to that season (e.g., *Virechanam*, *Vamanam*, *Viyarvai*)
- Use of internal and external medicines
- Lifestyle and procedural guidance for each therapeutic method
- Diet regimen to be followed during and after the therapies

Students apply their seasonal therapeutic knowledge in real-time patient interaction, including:(1 hour)

- Educating patients on seasonal influences
- Recommending appropriate diet and lifestyle changes

- Advising procedures when applicable

Experiential-Learning 1.3 : Application and Interpretation of Siddha Diagnostic Tools

Total duration of the activity is 4 Hours

Each student is instructed to perform Siddha diagnostic assessments on multiple patients of OPD/IPD with acute and chronic diseases using *Envagai thervu* including *Neerkuri, Neikuri, Manikkadai nool* (1 hour).

Interpret diagnostic findings with reference to Siddhar literature.

Categorize patients based on *Saathiya* (Curable) and *Asaathiya* (Incurable) features and prepare a study report (1 hour)

Arrange for Peer Review session and Encourage discussion, feedback, and refinement of interpretations (2 hours).

Experiential-Learning 1.4 : AI-Integrated Diagnostic Tool Development Based on Siddha Principles

Total duration of the activity is 4 Hours

Students are divided into teams.

Teacher should allocate the diagnostic domain (*Envagai thervu, Neerkuri, Neikuri*).

List the diseases/conditions, the AI will help diagnose.

Choose relevant diagnostic algorithms for the domain

Collect and organize large patient datasets for training

Choose and train a suitable AI model using curated data

Design an intuitive user interface for healthcare professionals

Test and validate the accuracy and reliability of the AI tool

Collect feedback from teacher for refinement

Experiential-Learning 1.5 : Siddha Perspectives on *Pathiya/Apathiya* for *Vali Noi*

Total duration of the activity is 5 Hours

Students were instructed by teacher to collect and analyze general *Pathiya, Apathiya vithigal* for a *Vali Noi* patient mentioned by various Siddhars.

Categorize the instruction based on *Yaakai ilakkanam* and seasonal variation.

Make personalized instructions based on *Mukkutram*

Prepare an IEC material to educate the patient appropriately.

One Group of Students has to collect and analyze general *Pathiya, Apathiya vithigal* for a *Vali Noi* patient mentioned by various Siddhars (1 hour).

Second group has to collect and analyze individual medicines for a *Vali Noi* patient mentioned by various Siddhars (1 hour).

Third group has to collect and analyze a *Vali Noi* patient based on Seasonal Variations mentioned by various Siddhars (1 hour).

Fourth group has to collect and analyze a *Vali Noi* patient based on *Thegi* (Temperament) mentioned by various Siddhars (1 hour).
Promote Collaborative presentation using the JIGSAW method under teacher's guidance (1 hour).

Experiential-Learning 1.6 : Literature Collection & Systematic Review on *Vali Noigal* remedies

Total duration of the activity is 5 Hours

Students will be divided into four teams.

First team should collect single herb for various manifestations of *Vali Noigal* from various Siddhars texts (30 minutes).

Second team should collect polyherbal preparations for various manifestations of *Vali Noigal* from various Siddhars texts (1 hour).

Third team should collect single herb for various manifestations of *Vali Noigal* from Research papers (30 minutes).

Fourth team should collect polyherbal preparations for various manifestations of *Vali Noigal* from Research papers (1 hour).

All teams should conduct a systematic review using PRISMA guidelines under the guidance of a teacher (2 hour)

Modular Assessment

Assessment method

Conduct a structured modular assessment. Assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per the table 6C

Choose any one of the below-mentioned modular assessments.

I.Applied Based Questions (1 x 20 = 20 Marks) or

Long Answer Questions of 2 questions (2 x 10 = 20 Marks) or

Short Answer Questions of 4 question (4 x 5 = 20 Marks)

II.Class presentation or Mini CEX or OSCE (20 Marks)

III.Viva voice or Poster or Interview or Quiz (10 Marks)

or

Any practical in converted form can be taken for assessment (25 Marks)

and

Any of the experiential as portfolio/ reflections /presentations can be taken as an assessment (25 Marks)

Hour

4

3A Course Outcome	3B Learning Objective (At the end of the (lecture/practical training /experiential learning) session, the students should be able to)	3C Notional learning	3D Lecture/ Practical	3E Domain/ Sub	3F Level (D oes/Sho	3G Teachin g
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		Hours	Training/ Experientia l Learning	Domain	ws how/ Knows h ow/Kno w)	Learnin g Methods
Module 2 : Vali Noigal pertaining to Heart, Vessels & Head; Psychosomatic disorder, Soolai, Sanni and Mayakkam						
Module Learning Objectives (At the end of the module, the students should be able to) Describe the types of <i>Soolai, Sanni, Mayakkam, Thamaraga noi</i>, Headaches, Psychosomatic & Vascular conditions due to <i>Vali</i> derangement, illustrate the <i>Mukutra Verupadu</i> (Deranged humours), <i>Noi Undaagum Vitham</i> (pathogenesis), <i>Noi kurigunangal</i> (Clinical presentations) and <i>Noiyinpokku</i> (Prognosis). Conduct detail physical examinations of individual diseases and interpret the diagnosis and differential diagnosis based on Siddha & Contemporary diagnostic tools and images to confirm the diagnosis. Identify the evidence based therapeutics from classical texts, recent advances in therapeutics, integrated approach in managing emergencies, the scope and opportunities for clinical research, some rating scales to the diseases to stay up-to date in knowledge.						
M 2 Unit 1 Vali Noigal pertaining to Heart & Vessels, Psychosomatic disorder Subunits of this unit has to be dealt in following details: 1. Common characteristic features of <i>Vali Noigal</i> pertaining to Heart & Vessels Psychosomatic disorder, <i>Vagaigal</i> (Types) mentioned by <i>Yugi, Kumbamuni</i> and other Siddhars, <i>Noi Varum Vazhi</i> (Etiopathogenesis), <i>Noi Kurigunangal</i> (Clinical features) of individual type, <i>Noi kanippu</i> (Diagnosis) and <i>Noyinpokku</i> (Prognosis) based on Siddha and Modern investigatory and Clinical methods, <i>Maruthuva Vazhimurai</i> (Specific line of treatment). 2. Details of Siddha therapeutics from various references including Internal and External medicines. 3. Rational use of Therapeutics, <i>Pathiyam</i>, Prevention & Health education, National Health campaigns of AYUSH and components under NRHM, Review on Clinical Research papers. 2.1.1. <i>Thamaraga vayu</i> 2.1.2. <i>Aaguni vatham</i> 2.1.3. <i>Oorthuva vatham</i> 2.1.4. <i>Vasanavatham</i> References: 1,3,4,5,6,7,19,24,28,31,32,41,44,45,46,58,83,84,85,96,102,103,104,105,126,144,146						
3A	3B	3C	3D	3E	3F	3G

CO2,CO3,CO4,CO5	Describe about <i>Iyal</i> (Definition), <i>Noi Varum Vazhi</i> (Etiology), <i>Noi Kurigunangal</i> (Clinical features), <i>Theerum & Theera vagaigal</i> (Curable & Incurable types), <i>Naadi Nadai</i> (Pulse reading) and other diagnostic tests and possible management including <i>Pathiyam</i> (Diet regimen) for <i>Thamaraga vayu</i> .	1	Lecture	CC	Knows-how	L&PPT
CO4,CO5	Create <i>Siddha</i> treatment plan for preventing vascular diseases.	3	Experiential-Learning 2.1	PSY-ORG	Does	TBL,PL,DIS
CO2	Discuss about <i>Aagunivatham</i> , <i>Oorthuvavatham</i> and <i>Vasanavatham</i> mentioned in various Siddhars and the line of treatment based on <i>Mukkutram</i> concept.	1	Lecture	CC	Knows-how	BS,L&GD,L&PPT
CO3	Demonstrate the Siddha Diagnosis of <i>Vali Noigal</i> of Vascular origin using Imaging and other tests.	4	Practical Training 2.1	CE	Shows-how	LRI,CBL,D,DIS,X-Ray
CO3	Demonstrate mental status exams to differentiate the psychosomatic illness from organic disorders and interpret them.	4	Practical Training 2.2	PSY-MEC	Shows-how	CD,D-BED,PL,TBL,CBL
CO3	Prepare a list of cultural and social factors influencing the psychosomatic presentations.	1	Lecture	CAP	Knows-how	DIS
CO2,CO5	Perform a counselling session for vascular diseases	3	Experiential-Learning 2.2	AFT-RES	Does	PBL,CBL
CO2	Summarize the risk factors of above diseases.	1	Lecture	CC	Knows-how	TUT
CO5	Design different management and rehabilitation plans by collaborating with multidisciplinary experts.	4	Experiential-Learning 2.3	PSY-ORG	Does	FV

M 2 Unit 2 Vali Noigal pertaining to Head

Subunits of this unit has to be dealt in following details:

1. Common characteristic features of *Vali Noigal* pertaining to Head, *Vagaigal* (Types) mentioned by *Yugi*, *Kumbamuni* and other Siddhars, *Noi Varum Vazhi* (Etiopathogenesis), *Noi Kurigunangal* (Clinical features) of individual type, *Noi kanippu* (Diagnosis), *Noiyinpokku* (Prognosis) based on Siddha and Modern investigatory and Clinical methods, *Maruthuva Vazhimurai* (Specific line of treatment).
2. Details of Siddha therapeutics from various references including Internal and External medicines.
3. Rational use of Therapeutics, *Pathiyam*, Prevention & Health education, National Health campaigns of AYUSH and components under NRHM, Review on Clinical Research papers.
- 2.2.1. *Netrisoolai vatham*
- 2.2.2. *Nethra powthra vatham*
- 2.2.3. *Vatha thalai nokkadu*
- 2.2.4. *Suriyavartha nokkadu*
- 2.2.5. *Oruthalaiyin vartham*

References: 1,2,3,4,5,8,19,20,21,27,28,31,41,44,45,46,58,83,85,90,96,102,103,104,145

3A	3B	3C	3D	3E	3F	3G
CO2	Describe the headaches mentioned by <i>Yugi</i> and classify them as primary, secondary and cranial neuralgias.	2	Lecture	CC	Knows-how	L&GD
CO2,CO4	Describe the etiopathogenesis and line of treatment for <i>Valinoigal</i> pertaining to head.	1	Lecture	CC	Knows-how	L&PPT
CO3	Summarize the differential diagnosis of <i>Vali Noigal</i> pertaining to Head using practical assessment tools.	3	Practical Training 2.3	CAN	Shows-how	CD,CBL, TBL
CO2,CO3	Categorize the severity, co morbidities of <i>Vali Noigal</i> pertaining to Head and impact on daily life through interrogation.	3	Practical Training 2.4	CAN	Shows-how	CBL,TBL ,D-BED
CO4	Develop evidence based treatment plans and guidelines.	4	Experiential-Learning 2.4	PSY-ADT	Does	PL,DIS,Pr BL,LS
CO5,CO7	Arrange workshops on headache .	4	Experiential-Learning 2.5	PSY-ORG	Does	DIS,L,W

M 2 Unit 3 Soolai, Sanni & Mayakkam

Epidemiology, *Iyal* (Definition), *Verupeyargal* (Synonyms), *Noi Varum Vazhi* (Etiology), *Murkurigunangal* (Risk factors), *Mukkuttra Verupadu* (Siddha Pathogenesis), *Kurigunangal* (Clinical features), *Vagaigal* (Types), Siddha Diagnostic procedures, Contemporary diagnostic techniques, *Noiyinpokku* (Prognosis), *Maruthuva Vazhimurai* (Line of treatment), *Noi cikkalgal* (Complications), Management, Patient education on management and safety, *Noi Thaduppumuraigal* (Preventive care), *Pathiyam*, Neuropsychological evaluation and management through counselling & Yoga. 2.3.1. Soolai 2.3.2. Sanni 2.3.3. Mayakkam

References: 1,2,3,4,5,7,11,18,19,31,32,41,46,58,83,84,85,96,103,113,145

3A	3B	3C	3D	3E	3F	3G
CO2	Define <i>Noi varum vazhi</i> (Etiology), <i>Vagaigal</i> (Types), <i>Mukkuttra verupadu</i> (Pathology), <i>Noi Kurigunangal</i> (Clinical features), <i>Noiyinpokku</i> (Prognosis), various classifications of <i>Soolai</i> based on the references in classical texts.	2	Lecture	CC	Knows-how	L&PPT
CO2,CO3	Differentiate between Somatic, Visceral and Neuropathic pain mentioned by <i>Yugi</i> .	2	Practical Training 2.5	CAN	Shows-how	TBL,DIS, D,PER
CO3	Identify pain assessment tools and interpret Siddha classification. Evaluate pain impact on quality of life Practically.	2	Practical Training 2.6	CAN	Shows-how	D,CBL,T BL
CO3,CO4	Describe <i>Sanni</i> and discuss about its <i>Iyal</i> (Definition), <i>Noikkaana Kaaranam</i> (Etiology), <i>Vagaigal</i> (Types), <i>Mukkuttra verupadu</i> (Siddha pathology), <i>Kurigunangal</i> (Clinical features), <i>Noiyinpokku</i> (Prognosis), various classifications of <i>Sanni</i> based on the references in classical texts.	1	Lecture	CC	Knows-how	L&PPT
CO4,CO6	Justify the efficacy of <i>Vairava maathiraigal</i> mentioned for <i>Sanni</i> on a scientific basis.	3	Experiential-Learning 2.6	CE	Does	LS,PL,TB L,JC
CO3	Prepare a case presentation emphasizing on differential diagnosis for <i>Mayakka Noi</i> .	2	Practical Training 2.7	PSY-GUD	Does	SIM,PER, CBL
CO2,CO5	Arrange syncope risk stratifications, Educate patient on fall prevention and lifestyle	3	Experiential-	PSY-	Does	CBL

	modifications.		Learning 2.7	ORG		
CO5,CO7	Create patient simulation and standardized patient encounters.	2	Experiential-Learning 2.8	PSY-ORG	Does	LRI,SIM

Practical Training Activity

Practical Training 2.1 : Interpreting Siddha Diagnosis using Imaging and other tests.

Total duration of the activity is 4 Hours

Teacher has to demonstrate the Clinical diagnosis through Siddha diagnostic tools on a patient.

He/She has to illustrate the interpretation of laboratory investigations, ECG, ECHO and Doppler studies.

Justify the diagnosis by comparing the findings from Siddha diagnostics with those from modern diagnostic tools.

Practical Training 2.2 : Mental Status Examination (MSE) to differentiate Psychosomatic Illness from Organic Disorders

Total duration of the activity is 4 Hours

Overview of Psychosomatic Illness vs Organic Disorders by teacherr. Explanation of Mental Status Examination (MSE) components which includes general appearance and behavior, speech and language, mood and affect, thought process and content, perception, Cognition (orientation, memory, attention, etc.) and Insight and judgment (45 minutes)

Students will be divided into small teams. Each team is assigned either a real patient (OPD/IPD) or a simulated case scenario representing either a psychosomatic or organic disorder. (15 minutes)

Each team should perform Mental Status Examination on their assigned case and document their observations and initial interpretations (1 hour).

Teams integrate Mental Status Examination findings with patient history, physical examination findings, relevant investigations. and to formulate differential diagnosis distinguishing psychosomatic from organic causes(30 minutes)

Each team should present their case, Mental Status Examination findings, interpretation, and diagnosis for teacher's and peers feedback and suggestion (1 hour)

Teacher summarizes key differences in Mental Status Examination findings between psychosomatic and organic disorders (30 minutes).

Practical Training 2.3 : Differential diagnosis of Headache.

Total duration of the activity is 3 Hours

Explanation by teacher (1 hour).

The teacher will explain the different types of *Vali Noigal* of the head emphasizing on history taking and clinical examination procedures and

Introduction to pain assessment tools including:

MIDAS (Migraine Disability Assessment Test)

MSS (Migraine Severity Score)

Aura assessment tools

Questionnaires for differentiating types of headaches

Demonstration and Practical Guidance (1 Hour):

Students are divided into small teams and assigned to patients. Assessment tools are distributed to each team.

The teacher will demonstrate how to administer the tools and interpret the results to assist in accurate diagnosis.

Report Submission (1 hour):

Students are instructed to interact with the patients, use the appropriate assessment tools, and conduct a thorough evaluation.

Each team has to prepare and submit a report based on their findings.

Practical Training 2.4 : Identification of severity, co morbidities of *Vali Noigal* of Head.

Total duration of the activity is 3 Hours

Teacher will demonstrate various pain assessment tools such as VAS, NRS, MPQ, and PDI, explaining their use and interpretation (1 hour).

Students will be divided into small teams and each team will be assigned a patient.

Students are required to interact with the patients to understand their pain experiences and symptom severity. They will also perform necessary clinical examinations and use appropriate pain assessment scales (questionnaires) to evaluate the severity and impact of pain on daily life activities (1 hour).

Each team will then prepare a clinical report based on their findings and submit it to the teacher for validation (1 hour).

Practical Training 2.5 : Differentiation of Pain types based on *Yugi's* Perspective

Total duration of the activity is 2 Hours

Teacher should explain and interpret the differentiation among the three types of pain- somatic, visceral, and neuropathic pain as described by *Yugi* (1 hour).

Students will then be divided into small teams and instructed to prepare a flowchart illustrating the key features and distinctions of the three types of pain based on *Yugi's* descriptions.

Teams will then present their flow charts in a discussion session moderated by the teacher (1 hour).

Practical Training 2.6 : Pain assessment in *Soolai Noi* using Standardized Tools

Total duration of the activity is 2 Hours

Teacher will explain and demonstrate the use of various pain assessment tools such as VAS (Visual Analogue Scale), NRS (Numerical Rating Scale), MPQ (McGill Pain Questionnaire), and PDI (Pain Disability Index). Proper guidance will be provided on how to administer these tools and interpret the results (1 hour).

Students are divided into small teams, and each team is assigned to an individual patient

Each team will then interact with their assigned patient to assess how pain affects their quality of life using the appropriate tools and submit a brief clinical report based on

their findings (1 hour).

Practical Training 2.7 : Presentation on *Mayakka Noi*

Total duration of the activity is 2 Hours

Teacher's Briefing (30 minutes):

Teacher should provide a concise overview of Clinical features, Siddha diagnostic approach Differential diagnosis and Management of *Mayakka Noi* (acute and chronic)

Case Presentation by Students (1 hour)

Then Students were asked to prepare a case presentation on *Mayakka Noi* using Simulated patient or Provided clinical case scenario by Incorporating theoretical and practical knowledge previously acquired and has to present the case in detail on:

History taking

Siddha diagnosis (*Envagai Thervu*, *Neerkuri/Neikuri* if applicable)

Differential diagnosis

Treatment protocol including diet/lifestyle.

Finally, the interactive discussion should be led by the teacher (30 minutes).

Experiential learning Activity

Experiential-Learning 2.1 : Siddha treatment plan for preventing vascular diseases.

Total duration of the activity is 3 Hours

Students will be divided into small teams

Review all the existing literature regarding vascular diseases (1 hour).

Short lists the treatment plan for prevent vascular diseases (1 hour)

Do a presentation (1 hour).

Experiential-Learning 2.2 : Counseling session for patients with vascular disease.

Total duration of the activity is 3 Hours

Students has to prepare for counseling and encourage open communication, coping mechanisms. Cognitive behavioral therapy, motivational interviewing.

Each Student should provide counseling for minimum of two patients with vascular disease.

Experiential-Learning 2.3 : Field visit to rehabilitation center

Total duration of the activity is 4 Hours

Make a visit to rehabilitation center for vascular diseases (4 Hours).

During the visit, students will interact with multidisciplinary experts regarding rehabilitation plans and develop management plan effectively.

A detailed report of the visit, including key observations and proposed management plans, should be submitted for evaluation.

Experiential-Learning 2.4 : Evidence-Based Treatment Planning for *Vali Noigal* of Head.

Total duration of the activity is 4 Hours

Students will begin by reviewing existing literature related to the concerned disease to develop evidence-based treatment plans (2 hours).

They will then present their treatment plans to peers or mentors for constructive feedback and discussion (1 hour 30 minutes).

Finally, based on the feedback received, students have to implement, evaluate, and revise their treatment plans to ensure they are aligned with current evidence and best practices (30 minutes).

Experiential-Learning 2.5 : Headache Diagnosis and Management - Workshop.

Total duration of the activity is 4 Hours

The session begins with a lecture (1 hour) delivered by the teacher on the types of headaches, their causes, triggers, diagnostic methods, and treatment options.

This is followed by a headache workshop (3 hours) that includes hands-on experience in diagnosing and managing headache disorders.

Objectives:

Understand the different types of Headache and Causes

Learn Effective management and treatment strategies

Develop skills to assess and diagnose Headaches

Explore pharmacological and non-pharmacological treatment options

Interactive sessions and Discussions should be carried by the students

Evaluation should be done by the teacher

Experiential-Learning 2.6 : Analyzing the efficacy of *Vairava maathiraigal* - Literature Search

Total duration of the activity is 3 Hours

Students are divided into groups. Each group is assigned to study about two *Vairava Maathirai* (30minutes).

They have to analyze the efficacy and safety of the selected formulations using available scientific research papers, focusing on phytochemical analysis, Toxicological profile and pharmacological actions. Each group will then present a concise scientific report in a journal club meeting or departmental forum (1hr 30 minutes).

Followed by discussion and feedback from teacher and peers (30 minutes).

Experiential-Learning 2.7 : Syncope Risk Stratification and Fall Prevention in Geriatric Care

Total duration of the activity is 3 Hours

Create a structured tool to assess and stratify syncope risk based on:

Patient history

Comorbidities

Medications

Vital signs and physical examination findings

Based on risk level, students have to create tailored fall prevention strategies including:

Environmental adjustments

Medication review

Assistive devices

Lifestyle advice

Develop personalized fall prevention plans for patients.

Design brochures, posters, or infographics to educate on:

Syncope recognition and management

Fall prevention tips

Lifestyle modifications for elderly safety

Implement the materials through:

OPD counseling sessions

Geriatric health camps or

Rehabilitation center awareness programs

Experiential-Learning 2.8 : Clinical Simulation Activity on *Mayakkam Noi*

Total duration of the activity is 2 Hours

Simulate a realistic clinical scenario with a patient exhibiting symptoms of an acute condition (15 minutes).

Students were instructed to take a structured medical history and perform a focused physical exam (15 minutes).

Perform diagnostic steps and interpret (15 minutes).

Students are trained to read and interpret ECG and Echo images relevant to the case (15 minutes).

Conduct hands-on training using manikins for CPR and defibrillation, including protocols (30 minutes).

Students practice effective doctor-patient communication, explaining, Diagnosis, Treatment plan, Lifestyle advice (30 minutes).

Modular Assessment

Assessment method	Hour
Conduct a structured modular assessment. Assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per the table 6C Choose any one of the below-mentioned modular assessments. I. Long Answer Questions (1 x 10 =10 Marks) or Short Answer Questions (2 x 5 =10 Marks) II. Mini CEX or Class presentation or Case Based Assessment (20 Marks) III. VivaVoice or Trainers Report or Project or Quiz (20 Marks) Or Any practical in converted form can be taken for assessment (25 Marks) and Any of the experiential as portfolio/ reflections /presentations can be taken as an assessment (25 Marks)	4

Semester No : 4

3A Course Outcome	3B Learning Objective (At the end of the (lecture/practical training /experiential learning) session, the students should be able to)	3C Notional learning Hours	3D Lecture/ Practical Training/ Experientia l Learning	3E Domain/ Sub Domain	3F Level (D oes/Sho ws how/ Knows h ow/Kno w)	3G Teachin g Learnin g Methods
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Module 3 : Vali Noigal pertaining to Nervous system

Module Learning Objectives

(At the end of the module, the students should be able to)

Describe the basics of *Valikuttram* affecting *Vignanamaya kosam*, its *Mukkuttraverupadu* (Etiopathogenesis), control on vital functions, manifestations in various organs, Classification of *Vali Noigal* pertaining to Nervous system by various Siddhars, Comparison with contemporary medical theories.

Conduct a examination of Nervous system and interpret the findings of Siddha and contemporary clinical findings, explain the recent advances and guidelines in the

concepts of *Vali Noigal* pertaining to Nervous system.

Identify and interpret Neuropsychiatric aspects of ageing, Neuro-degenerative disorders, and effective therapeutic approaches with interdisciplinary collaboration.

M 3 Unit 1 Vali Noigal pertaining to Central Nervous System.

Common characteristic features of *Vali Noigal* pertaining to Central Nervous system (*Vignanamaya kosam*), *Vagaigal* (Types) mentioned by *Yugi*, *Kumbamuni* and other Siddhars, *Noi Varum Vazhi* (Etiopathogenesis), *Noi Kurigunangal* (Clinical features) of individual type, *Noi kanippu* (Diagnosis), *Noiyinpokku* (Prognosis) based on Siddha and Modern investigatory and Clinical methods, *Maruthuva Vazhimurai* (Specific line of treatment). Details of Siddha therapeutics from various references including Internal and External medicines. Rational use of Therapeutics, *Pathiyam*, Prevention & Health education, National Health campaigns of AYUSH and components under NRHM, Review on Clinical Research papers. 3.1.1. *Vathakarnagam* 3.1.2. *Vathaupagatham* 3.1.3. *Pakkavatham* 3.1.4. *Patchavatham* 3.1.5. *Nagarivatham* 3.1.6. *Arputhavatham* 3.1.7. *Uragavatham*(*Uragathavatham*) 3.1.8. *Atta thantra vatham* 3.1.9. *Sirakambavatham* 3.1.10. *Vachiraruba vatham* 3.1.11. *Sanni vatha nokkadu* 3.1.12. *Raththa pitha nokkadu* 3.1.13. *Sirakamba avathanagam* 3.1.14. *Pathithavatham* 3.1.15. *Pranalavatham*

References: 1,2,3,4,5,7,22,23,24,28,31,32,41,44,45,46,58,83,84,85,90,96,102,103,104,105,113,145,147

3A	3B	3C	3D	3E	3F	3G
CO2	Review the <i>Vali Noigal</i> of Central nervous system origin on the basis of their classification and etiopathogenesis mentioned by various Siddhars.	2	Lecture	CC	Knows-how	L&PPT
CO1,CO3	Analyze the variation in the <i>Mukutta theory</i> and <i>Udal thathukkal</i> in the various <i>Vali Noigal</i> pertaining to Central Nervous System.	2	Lecture	CAN	Knows-how	L&PPT
CO3	Demonstrate a Neurological examination and interpret the findings.	4	Practical Training 3.1	PSY-GUD	Shows-how	D-BED,CBL
CO4	Compute a treatment protocol for <i>Vali Noigal</i> of Central Nervous system with special emphasis on <i>Pakkavatham</i> .	2	Lecture	CAP	Knows-how	LS,L&GD
CO3,CO4	Summarize the line of treatment, Specific treatment protocol for each disease in the	2	Lecture	CC	Knows-	L&GD

	classification for stabilization and rehabilitation of the patient with preventive strategies.				how	
CO3	Construct a Case sheet for <i>Vali Noigal</i> pertaining to Central Nervous system illustrating the clinical signs symptoms and interpreting the diagnostic tools of both Siddha and Contemporary medicine.	4	Practical Training 3.2	PSY-MEC	Shows-how	PAL,ML,LS
CO3	Develop Skills in ordering and interpreting neuro imaging studies (CT, EEG, MRI)	4	Practical Training 3.3	PSY-GUD	Knows-how	LRI
CO4,CO7	Adapt skill to manage Neurological emergencies.	4	Practical Training 3.4	PSY-ADT	Shows-how	SIM,D,W,DIS
CO7	Create effective communication skills to explain complex neurological concepts	2	Experiential-Learning 3.1	AFT-RES	Does	PER,RLE
CO7	Identify the importance of interdisciplinary collaboration in NeuroCare.	2	Experiential-Learning 3.2	PSY-GUD	Does	FV
CO4	Prepare a <i>Pakkavatham</i> patient for line of treatment and suitable external therapies	4	Experiential-Learning 3.3	PSY-GUD	Does	TBL,CBL
CO7	Develop discharge plans/referral note and coordinate followup care.	4	Experiential-Learning 3.4	CS	Does	CBL
CO2,CO7	Identify common complications and the importance of early rehabilitation of Post Stroke.	4	Experiential-Learning 3.5	PSY-GUD	Does	JC,DIS,TBL,PAL
CO1,CO2	Adapt recent advances and guidelines of neurology in clinical practices.	4	Experiential-Learning 3.6	PSY-ADT	Does	ML,LS

M 3 Unit 2 Valippu Noigal

Epidemiology, *Iyal* (Definintion), *Veru peyargal* (Synonyms), *Noi Varum Vazhi* (Etiology), Risk factors, *Mukkuttra Verupadu* (Pathogenesis), *Noi Kurigunangal* (Clinical features), *Vagaigal* (Types), Siddha diagnostic procedures, contemporary diagnostic tests, *Noiyinpokku* (Prognosis, *Maruthuva Vazhimurai* (Line of treatment). Management of *Valippu* in Special populations (Paediatrics, Geriatrics, Pregnancy) with Siddha references, Complications, Patient

education on management and safety, Preventive care in *Valippu*. Dietary therapy, Neuropsychological evaluation and management through counselling & Yoga
3.2.1. *Valippu* 3.2.2. *Kandaga avathanagam*

References: 1,4,7,9,28,46,58,83,85,90,102,105,145

3A	3B	3C	3D	3E	3F	3G
CO2,CO4	Define <i>Valippu noi</i> with its <i>Mukkuttra verupadu</i> (Etiopathogenesis), <i>Vagaigal</i> (Types), <i>Noi Kurigunangal</i> (Clinical features) and <i>Sirappu maruthuvam</i> (Special treatment) mentioned in various texts.	2	Lecture	CC	Knows-how	L&PPT
CO1,CO2,CO3	Discuss the impact of epilepsy on mental health.	1	Lecture	CAP	Knows-how	L&GD
CO2,CO4,CO5	Identify special populations affected by <i>Valippu Noi</i> and explain the Risk factors, Precautions, Siddha therapeutic and lifestyle education on preventive care.	2	Experiential-Learning 3.7	PSY-ADT	Does	PER,DIS,JC
CO3	Organize clinical examination in patient with <i>Valippu Noi</i> .	3	Practical Training 3.5	PSY-MEC	Shows-how	D-BED,CBL,CD
CO2,CO4,CO5	Evaluate the complications and emergencies in epilepsy and effective management & safety.	3	Practical Training 3.6	CE	Shows-how	D,EDU,PBL,PL
CO4	Design a rational integrative treatment and management protocol for <i>Valippu Noi</i> .	2	Experiential-Learning 3.8	PSY-ORG	Does	LS,PER,FV,ML,PL
CO5,CO7	Create IEC material for patient education on <i>Valippu</i> management and safety	4	Experiential-Learning 3.9	PSY-GUD	Does	CBL,PER,PAL

M 3 Unit 3 Vali Noigal pertaining to Peripheral Nervous System.

Common characteristic features of *Vali Noigal* pertaining to peripheral nervous system, *Vagaigal* (Types) mentioned by *Yugi*, *Kumbamuni* and other Siddhars, *Noi Varum Vazhi* (Etiopathogenesis), *Noi Kurigunangal* (Clinical features) of individual type, *Noi kanippu* (Diagnosis), *Noiyinpokku* (Prognosis) based on Siddha and Modern investigatory and Clinical methods, *Maruthuva Vazhimurai* (Specific line of treatment). Elaborate details of Siddha therapeutics from various references including Internal and External medicines. Specific emphasis on neuro degenerative disorders pertaining to the classification. Rational use of

Therapeutics, *Pathiyam*, Prevention & Health education, National Health campaigns of AYUSH and components under NRHM, Review on Clinical Research papers. 3.3.1. *Vathakarshanam* 3.3.2. *Vathasthambam* 3.3.3. *Karathambavatham* 3.3.4. *Savvirangavatham* 3.3.5. *Oorusthambavatham* 3.3.6. *Panikambavatham* 3.3.7. *Pasathambavatham*

References: 1,4,5,7,11,24,28,30,31,41,44,45,46,58,83,85,96,102,103,105,145

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Discuss the epidemiology, risk factors, classifications and specific Peripheral Nervous system diseases based on both Siddha and Contemporary Sciences.	2	Lecture	CC	Knows-how	L&PPT , L&GD,B L,DIS
CO2,CO3	Compute the Clinical presentation and diagnostic criteria for <i>Vali Noigal</i> pertaining to Peripheral Nervous system.	2	Practical Training 3.7	CAN	Shows-how	CBL,D-B ED,CD,L RI,SIM
CO2,CO3	Organize clinical examination to differentiate <i>Valinoigal</i> pertaining to Peripheral Nervous system.	4	Practical Training 3.8	PSY-MEC	Knows-how	D-BED,P ER,CBL, CD
CO4,CO5	Compose a detailed treatment protocol involving Siddha therapeutics, Lifestyle modifications and preventive measures for <i>Vali Noigal</i> pertaining to Peripheral Nervous System.	3	Experiential-Learning 3.10	PSY-ADT	Does	TPW,PE R,PAL,P BL,TBL
CO3	Organize Nerve conduction study	2	Practical Training 3.9	PSY-MEC	Shows-how	L_VC,CB L,LRI,D
CO5	Discuss the impact of lifestyle factors on Peripheral Nervous System health	2	Lecture	CC	Knows-how	JC,L,L& GD,L&P PT ,BS
CO4	Assess the role of <i>Varma</i> , External therapy and <i>Yoga</i> in the treatment of <i>Vali Noigal</i> involving Peripheral Nervous system	4	Experiential-Learning 3.11	CE	Does	FV,CBL, TPW,W

CO2,CO3	Construct the case study on <i>Karathambavatham</i> .	2	Experiential-Learning 3.1 2	CAP	Does	CBL,PER
CO7	Appraise the current research studies on <i>Vali Noigal</i> pertaining to Peripheral Nervous system	2	Experiential-Learning 3.1 3	CE	Does	LS,ML

Practical Training Activity

Practical Training 3.1 : Integrated Clinical Assessment of Central Nervous System Disorders through Siddha and Modern Approaches

Total duration of the activity is 4 Hours
 Clinical Demonstration by teacher -2 Hours
 Teacher will perform a clinical examination on a patient, demonstrating:
 Patient preparation and communication
Envagai Thervu and Siddha diagnostic tools
 General and systemic examination of the Central Nervous System
 Correlation between Siddha principles and modern neurological findings
 Emphasis on diagnosis and documentation
 In the consecutive session, Students are grouped into small teams.
 Prepare the patient for clinical examination
 Greet the patient and introduce yourself and take consent from the patient for examination & explain the procedure (10 mins).
 Stand on the right side of the patient and inquire about medical history and previous laboratory investigation (20 mins).
 Perform the Siddha examination through *Envagai thervu*, 7 *Udal thaathukkal*, *Kanmindriyam*, *Gnanindriyam*, *Yaakkai ilakkanam*, derangements in *Uyir thathukkal* etc (1 hour).
 Arrive a diagnosis after performing general & systemic examination of Central nervous system (30 mins)
 General examination:
 1.Higher intellectual function:
 In siddha, the layers of consciousness associated with intellect, discernment & insight in *Vignanamaya kosam*.
Vignanamaya kosam is believed to be the house of higher cognitive abilities such as memory, wisdom, judgment and intuition.
Mukkuttram on Cognitive function:
Vali linked with Creativity, Quick thinking & Memory which promotes clarity sharpness of mind.

Azhal linked with intellect, logic analytical skills.

Iyam linked to stability, calmness and retention of knowledge.

2.Cranial nerve examination

3.*Dasanadi* examination

4.Motor system examination: Inspection, Tone, Power, Reflex

Examination of *Udal thathukkal*, *Kanmindriyam*.

5. Sensory system examination: Light, Touch, Pain, Vibration, Position sense & Two- point discrimination. Examination of *Gnanaindriyam*.

6.Co-ordination & Cerebellar function: Finger nose, Rapid alternative movements, Gait analysis.

7.Analysis of *Yakkai ilakkanam*.

Write a detailed case sheet and submit.

Practical Training 3.2 : Case sheet for *Vali Noigal* pertaining to Central Nervous system.

Total duration of the activity is 4 Hours

Students have to prepare a case sheet proforma for *Valinoigal* pertaining to Central Nervous System with the knowledge of theory and practical classes (2 hours).

Peer review it and submit to teacher for validation (2 hours).

Practical Training 3.3 : Interpreting neuro imaging studies (CT, EEG, MRI)

Total duration of the activity is 4 Hours

Teacher has to interpret the symptoms with imaging studies (2 hours).

Then Students have to submit a detailed report based on knowledge and understanding of each modality (2 hours)

Order Neuroimaging appropriately

Example:

CT indications

Acute stroke

Head trauma

Acute neurological deterioration

Learning to interpret the common findings.

All these activities are made under the guidance of teacher.

EEG

Seizure activity

Encephalopathy

Monitoring ICU patients

MRI:

Chronic neurological symptoms

Tumors,

Multiple sclerosis & infectious Spine disorders.

Practical Training 3.4 : Neurological emergencies.

Total duration of the activity is 4 Hours

Teacher has to give instructions and discuss about common neurological emergencies

Make student familiarize with the presentations and management

Based on the foundation knowledge (Classroom & self-study)

Students gain a solid understanding of neurological emergency types, symptoms & treatment protocols.

Use clinical resources, such as textbooks & online modules to understand Patho physiology & treatment guidelines

Can arrange guest lecture for demonstration by experienced neurologist & emergency physicians to learn approach to acute neurological conditions.

Enroll in neurological emergency simulation workshops (Stroke, Seizure, Head trauma scenarios) online or in lab.

Conduct hands on training in using emergency equipment, such as mechanical ventilators.

Practical Training 3.5 : Evaluation and Emergency Management of Epilepsy

Total duration of the activity is 3 hours

Teacher will demonstrate the evaluation of complications and emergency management in epilepsy through curated video clips, focusing on, common complications in epilepsy, emergency scenarios (e.g., status epilepticus), first aid and safety protocols & clinical decision-making during epileptic episodes (3 hour).

Practical Training 3.6 : Clinical examination in *Valippu Noi*

Total duration of the activity is 3 Hours

Divide the students into groups and allot a patient or case scenario.

Prepare the patient for clinical examination

Greet the patient and introduce yourself and take consent from the patient.
 Gather a detailed history about seizure characteristics, frequency and potential triggers
 Perform general physical examination & Neurological examination (2 hours)
 Perform the Siddha examination through *Envagai thervu*, *7 Udal thathukkal*, *Kanmaindriyam*, *Gnanaindriyam*, *Yaakkai ilakkanam*, *Mukkuttram* etc.
 Conclude the findings (30 mins).
 Do differential diagnosis (30 mins).
 Arrive the diagnosis and submit the report.

Practical Training 3.7 : Differential diagnosis of *Vali Noigal* of Peripheral Nervous system.

Total duration of the activity is 4 Hours
 Teacher has to elaborate about the features of *Vali Noigal* pertaining to Peripheral Nervous system in first session (2 hours).
 Consequently, the students should organize a presentation on differential diagnosis of *Vali Noigal* of Peripheral Nervous system from the given case scenario and submit (2 hours).

Practical Training 3.8 : Diagnostic criteria for *Vali Noigal* pertaining to Peripheral Nervous system.

Total duration of the activity is 2 Hours
 Teacher has to discuss about the following topics (1 hour).
 Clinical presentation of *Vali Noigal* in Peripheral Nervous system i.e.,
 Pain characteristics
 Sensory symptoms
 Motor symptoms
 Autonomic symptoms
 Each student will perform the clinical assessment and diagnostic procedures on a patient, simulation model, or case scenario under supervision. (1 Hour)
 Diagnostic Criteria:
 He/She has to demonstrate the following in patient or simulation.
 Patient history Physical examination Motor function testing Sensory function testing Reflex testing
 Diagnostic tests: Nerve conduction studies
 Perform a basic nerve conduction study and interpret the results to identify slowed nerve conduction or blockage
 Conduct EMG to identify abnormal electrical activity in affected muscles.
 Imaging: MRI, CT Review Imaging results and interpret.
 Compile all findings from history, examination, and investigations.

Perform a differential diagnosis based on the data.
Arrive at a final diagnosis consistent with *Vali Noigal* of the Peripheral Nervous system.

Practical Training 3.9 : Nerve conduction study

Total duration of the activity is 2 Hours

Teacher has to arrange a video class or live online session conducted by a specialist to demonstrate Nerve Conduction Study (NCS) procedures(1 hour 30 minutes).

Students should observe the demonstration carefully and document the key details in their practical record.

Case-Based Practical Learning Session (30 minutes)

Objective setting: Establish the goals for the practical session, such as understanding the methodology of Nerve Conduction Study,

Review the theoretical concept

Materials & Equipment check

Demonstration of equipment & setup

Introduction to NCS machine

Electrode placements

Ground electrode

Skin preparation

Hands on practice: Conducting the study (1 Hour)

Step by step supervision

Electrode placement

Stimulation procedure

Recording nerve response

Multiple site testing

Data collection & analysis

Experiential learning Activity

Experiential-Learning 3.1 : Complex Neurological concept - Presentation

Total duration of the activity is 2 Hours

Poster presentation of neurological concepts to develop communication skills to explain complex neuro condition.

Students have to reflect on their experience and submit the report.

Experiential-Learning 3.2 : Importance of interdisciplinary collaboration in NeuroCare.

Total duration of the activity is 2 Hours

Ask Students to involve interdisciplinary collaboration to identify the importance by visiting NeuroCare centers.

To know the effects of Physiotherapy & *Varma* on neurological cases, Students must attend the session regarding this.

Experiential learning shows how effective collaboration ensures continuity of care across different stages of treatment and submit the report.

Experiential-Learning 3.3 : Case study on *Pakkavatham* Patient

Total duration of the activity is 4 Hours

Provide Students with *Pakkavatham* case studies.

Divide the Students into small groups

Ask groups to analyze the case study. Identify the suitable external therapies & line of treatment

Experiential-Learning 3.4 : Discharge plans/referral note

Total duration of the activity is 4 Hours

Ask students to keep a record for discharge plans/referral note & coordinate follow up care.

Ask students to develop different discharge plans for various disease

Experiential-Learning 3.5 : Complications and Importance of early rehabilitation of Post Stroke.

Total duration of the activity is 4 Hours

Divide students into small groups

Encourage discussion on common complications & the importance of early rehabilitation of post stroke.

Develop empathy for those with stroke condition and make presentation in peer group, science club/scientific forum.

Experiential-Learning 3.6 : Application of recent advances in neurological clinical practices.

Total duration of the activity is 4 Hours

Explore current research & advancement in neurological field (2 hours).

Collect, record the data (1 hour)

Adapt the guidelines of neurology in clinical practices (2 hours)

Experiential-Learning 3.7 : Awareness on *Valippu Noi*.

Total duration of the activity is 2 Hours

Ask students to conduct awareness programme to identify special population affected by *Valippu Noi* & explain the risk factors, precautions, Siddha therapeutics.

Arrange awareness programme about lifestyle education on preventive care of *Valippu Noi* (1 hr 30 mins).

Make a presentation in Journal club/ scientific forum (30 minutes)

Experiential-Learning 3.8 : Presentation of Integrative treatment protocol for *Valippu Noi*.

Total duration of the activity is 2 Hours

Students will be instructed to design a chart outlining an integrative treatment and management protocol for *Valippu Noi* by doing detailed literature review/field visits (1 hour 30 minutes).

Each student or group will present their treatment protocol chart to the peer group for discussion, feedback, and collaborative learning (30 minutes).

Experiential-Learning 3.9 : Patient Education on *Valippu* management.

Total duration of the activity is 4 Hours

Encourage Students to creative writing for patient education on *Valippu* management & safety to make IEC materials.

Steps:

Define the objective

Conduct the need assessment

Develop a conduct outline covering definition and types of epilepsy, causes and risk factors, symptoms and diagnosis, treatment options and management strategies, lifestyle modifications, common myths and misconceptions

Create the content using simple language, visuals and graphics

Design the layout and visuals

Review and revise with peers and faculties

Test and evaluate by getting feedback from patients and caregivers

Implement the IEC to the target population

Monitor and update

Experiential-Learning 3.10 : Treatment Protocol for *Vali Noigal* pertaining to Peripheral Nervous System

Total duration of the activity is 3 Hours

Develop a comprehensive mind map outlining the detailed treatment protocol for *Vali Noi* pertaining to Peripheral Nervous System, incorporating, Siddha therapeutics, lifestyle modifications and preventive measures (1 hour).

Organize the information visually to show the interconnections between different components of the treatment approach (1 hour).

Prepare and deliver a presentation to explain the mind map and rationale behind the proposed protocol (1 hour).	
Experiential-Learning 3.11 : Evaluation of <i>Varma</i> , External Therapies, and <i>Yoga</i> in managing <i>Vali Noigal</i> pertaining to Peripheral Nervous System	
Total duration of the activity is 4 Hours Attend sessions or visit relevant centers to assess the role of <i>Varma</i> therapy, external therapies, and <i>Yoga</i> in the treatment of <i>Vali Noigal</i> involving the Peripheral Nervous System. Following the visit, participants are required to submit a detailed report summarizing their observations and evaluations.	
Experiential-Learning 3.12 : Case study on <i>Karathambavatham</i> .	
Total duration of the activity is 2 Hours Construct the case study on <i>Karathambavatham</i> by attending patients in OPD or IPD and make a presentation or publication.	
Experiential-Learning 3.13 : Meta Analysis/Review on <i>Vali Noigal</i> pertaining to Peripheral Nervous system	
Total duration of the activity is 2 Hours Conduct a meta analysis/review on the current research studies on <i>Vali Noigal</i> pertaining to Peripheral Nervous system.	
Modular Assessment	
Assessment method	Hour
Conduct a structured modular assessment. Assessment will be for 75 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per the table 6C Choose any one of the below-mentioned modular assessments. I. Application based Question or Long Answer Question (1 x 20 = 20 Marks) II. Class presentations or Viva voice or Quiz or Compilations (20 Marks) III. OSCE or Case Based Assessment or Mini CEX or Simulated patients or Scenario based Assessment (20 Marks) IV. Spotters (5x3=15 Marks) or Any practical in converted form can be taken for assessment (30 Marks) or Any of the experiential as portfolio/ reflections /presentations can be taken as an assessment (40 Marks)	6

3A Course Outcome	3B Learning Objective (At the end of the (lecture/practical training /experiential learning) session, the students should be able to)	3C Notional learning Hours	3D Lecture/ Practical Training/ Experientia l Learning	3E Domain/ Sub Domain	3F Level (D oes/Sho ws how/ Knows h ow/Kno w)	3G Teachin g Learnin g Methods
Module 4 : Vali Noigal pertaining to Ear, Nose, Throat & Oral cavity						
Module Learning Objectives (At the end of the module, the students should be able to)						
Describe the pathology and manifestations of <i>Vali kuttram</i> in Ear, Nose, Throat & Oral cavity diseases mentioned by <i>Yugi, Kurigunangal</i> (Clinical features) and <i>Maruthuva Valimurai</i> (Line of treatment). Conduct a detail clinical examination of Ear, Nose & Throat using Siddha and Contemporary diagnostic tools, Interpret the diagnosis and develop a specific therapeutic plan including external medicines. Identify the risk factors, predisposing conditions, Genetics, environmental factors, underlying medical conditions, complications for ENT diseases and evaluate counselling plan for prevention and management.						
M 4 Unit 1 Vali Noigal pertaining to Ear						
Common characteristic features of <i>Vali Noigal</i> pertaining to Ear, <i>Vagaigal</i> (Types) mentioned by <i>Yugi, Kumbamuni</i> and other Siddhars, <i>Noi Varum Vazhi</i> (Etiopathogenesis), <i>Noi Kurigunangal</i> (Clinical features) of individual type, <i>Noi kanippu</i> (Diagnosis), <i>Noiyinpokku</i> (Prognosis) based on Siddha and Modern investigatory and Clinical methods, <i>Maruthuva Vazhimurai</i> (Specific line of treatment). Details of Siddha therapeutics from various references including Internal and External medicines. Rational use of Therapeutics, <i>Pathiyam</i>, Prevention & Health education, National Health campaigns of AYUSH and components under NRHM, Review on Clinical Research papers. 4.1.1. <i>Sevipadu vatham</i> 4.1.2. <i>Karna soolai vatham</i> 4.1.3. <i>Vatha karna soolai</i>						

4.1.4. *Pitha karna soolai*

4.1.5. *Selathuma karna soolai*

4.1.6. *Kirumi karna soolai*

References: 1,4,5,6,7,24,28,31,41,44,46,58,83,85,92,94,96,102,103,111,136

3A	3B	3C	3D	3E	3F	3G
CO2,CO3	Describe the pathogenesis and Clinical presentation of <i>Vali Kuttram</i> affecting Ear, types mentioned by <i>Yugi, Kumbamuni</i> ,etc..	1	Lecture	CC	Knows-how	L&PPT
CO2,CO3	Compare and contrast the different types of <i>Karna soolai</i> mentioned by <i>Yugi</i> . Discuss the various types of ear diseases and disorders including Meniere's diseases.	2	Practical Training 4.1	CAN	Shows-how	TBL,DIS, PER,LS
CO3	Demonstrate the diagnosis and prognosis based on Siddha and Modern investigatory and Clinical methods of Ear Diseases.	2	Practical Training 4.2	PSY-GUD	Shows-how	TBL,CD, LRI
CO5,CO6	Construct a treatment plan for <i>Vali Noigal</i> of Ear, including Internal, external Medicine and <i>Pathiyam</i> from various texts.	3	Experiential-Learning 4.1	PSY-ADT	Does	TPW,LS, PBL,TBL
CO5,CO7	Adapt management strategies including diet, exercise to educate patients and prepare a chart for Brand Daroff exercise.	3	Experiential-Learning 4.2	PSY-ADT	Does	LS,ML,T BL
CO1,CO5,CO7	Summarize the effectiveness of <i>Siddha Pini Anuga Vithi</i> (preventive measures) in the prevention & management of ear diseases of <i>Vali</i> origin.	1	Lecture	CAN	Knows-how	L&GD,DI S,LS

M 4 Unit 2 Vali Noigal pertaining to Nose

Common characteristic features of *Vali Noigal* pertaining to Nose, *Vagaigal* (Types) mentioned by *Yugi, Kumbamuni* and other Siddhars, *Noi Varum Vazhi* (Etiopathogenesis), *Noi Kurigunangal* (Clinical features) of individual type, *Noi kanippu* (Diagnosis), *Noiyinpokku* (Prognosis) based on Siddha and Modern investigatory and Clinical methods, *Maruthuva Vazhimurai* (Specific line of treatment). Details of Siddha therapeutics from various references including Internal and External medicines. Rational use of Therapeutics, *Pathiyam*, Prevention & Health education, National Health campaigns of AYUSH and components under NRHM, Review on Clinical Research papers. 4.2.1. *Pitha thalai nokkadu*

4.2.2. *Sethuma thalai nokkadu*

4.2.3. *Kirumi katha nokkadu*

4.2.4. *Chandravartha nokkadu*

References: 1,4,5,8,24,28,31,41,44,45,46,58,83,85,90,92,94,96,102,135,136

3A	3B	3C	3D	3E	3F	3G
CO2	Describe the types of <i>Vali Noigal</i> pertaining to nose mentioned by <i>Yugi</i> and also similar clinical entities by other siddhars and describe the etiopathogenesis, Clinical features of Nasal <i>Vali Noigal</i> .	1	Lecture	CC	Knows-how	L&PPT
CO2,CO3	Compare the Nasal <i>Vali Noigal</i> with sinusitis/headache and mastoid abscess in modern diagnosis and interpret the images and others clinical findings to confirm the diagnosis.	2	Practical Training 4.3	CAN	Shows-how	DIS,TBL, X-Ray
CO4,CO5	Set up a treatment protocol for <i>Vali Noigal</i> of nasal origin with dietary advice	1	Experiential-Learning 4.3	PSY-ADT	Does	TBL,PER,LS
CO4,CO7	Evaluate the effectiveness of external therapies in Nasal <i>Vali Noigal</i> and justify with scientific evidence.	2	Experiential-Learning 4.4	CE	Does	PER,FV, CBL

M 4 Unit 3 Vali Noigal pertaining to Throat & Oral cavity

Common characteristic features of *Vali Noigal* pertaining Throat & Oral cavity, *Vagaigal* (Types) mentioned by *Yugi*, *Kumbamuni* and other Siddhars, *Noi Varum Vazhi* (Etiopathogenesis), *Noi Kurigunangal* (Clinical features) of individual type, *Noi kanippu* (Diagnosis), *Noiyinpokku* (Prognosis) based on Siddha and Modern investigatory and Clinical methods, *Maruthuva Vazhimurai* (Specific line of treatment). Details of Siddha therapeutics from various references including Internal and External medicines. Rational use of Therapeutics, *Pathiyam*, Prevention & Health education, National Health campaigns of AYUSH and components under NRHM, Review on Clinical Research papers. 4.3.1. *Sathasthamba vatham* 4.3.2. *Kanda kiraaga vatham* 4.3.3. *Silethuma vatha suronitham* 4.3.4. *Angnana thamba vatham* 4.3.5. *Thanthavayu*

References: 1,4,5,6,7,24,28,31,34,41,44,45,46,58,83,85,90,92,94,96,102,105,136

3A	3B	3C	3D	3E	3F	3G
CO2	Describe the <i>Vali Noigal</i> affecting Throat and Oral cavity mentioned by <i>Yugi</i> and other	1	Lecture	CAP	Knows-	PER

	Siddhars.				how	
CO2,CO3	Describe the clinical presentation of <i>Vali Noigal</i> of throat.	1	Lecture	CC	Knows-how	L&PPT, L_VC
CO3,CO4	Create algorithm based on the <i>Mukkuttra theory</i> to interpret the nerve palsy of throat with the <i>Vali Noigal</i> of throat origin and discuss treatment protocol based on clinical features.	2	Practical Training 4.4	AFT-RES	Shows-how	PER,CBL,DIS
CO3	Describe the <i>Mozhi thervu</i> in patient with throat diseases and interpret the findings to support the diagnosis.	2	Practical Training 4.5	CAP	Shows-how	CD,D-BE D,PER,DIS,TBL
CO5,CO7	Organize patient simulation to provide guidance on throat hygiene and voice conservation.	2	Experiential-Learning 4.5	PSY-MEC	Does	D,DIS,SIM,CBL
CO5,CO7	Design a project on Oral Health Education based on siddha and contemporary medicines.	2	Experiential-Learning 4.6	PSY-ORG	Does	PrBL,CBL

Practical Training Activity

Practical Training 4.1 : Comparing and contrasting the different types of *Karna soolai*

Total duration of the activity is 2 Hours
 Comparison and Discussion (1 hour)
 Students are grouped into small teams.
 Topic is declared.
 Discussions will be held in front of teaching faculties.
 Topic 1: Describe the clinical features and types of *Karna soolai*.
 Topic 2: Describe the clinical features and types of Various Ear diseases.
 Compare and contrast the two findings and tabulate the inferences
 Presentation (1 hour)
 Each group will present the findings.

Practical Training 4.2 : Clinical examination of Ear Diseases based on siddha and contemporary system of medicine..

Total duration of the activity is 2 Hours
Students are divided into small teams
Each team is allotted with a case scenario of ear disease
A case sheet is written by narrating history, physical examination, siddha and modern investigatory methods and interpretations to arrive the diagnosis is prepared individually and submitted for validation. (2 hours)

Practical Training 4.3 : Comparative Diagnosis of Nasal *Vali Noigal*

Total duration of the activity is 2 Hours
Comparison and discussion (90 mins)
Students are grouped into small teams.
Topic is declared.
Discussions will be held in front of teacher
Initially each topic discussed separately and later related with each other.
Topic 1: Describe the clinical features and types of sinusitis.
Topic 2: Describe the clinical features and types of mastoid abscess.
Compare both with the clinical features of nasal *Vali Noi*
Make a clinical illustration for each disease using all findings.
Presentation (30 mins)
Each team should present anyone of the nasal *Vali Noi* using a case scenario.

Practical Training 4.4 : Algorithm and treatment protocol for *Vali Noigal* of throat origin

Total duration of the activity is 2 Hours
Students are instructed to create algorithm based on the Mukkuttra theory for *Vali Noigal* of throat origin. (45 mins)
Discuss treatment protocol based on clinical features. (45 mins)
Each student should present a case report using a case scenario. (30 mins)

Practical Training 4.5 : Demonstrate and Interpret *Mozhi thervu* in throat diseases.

Total duration of the activity is 2 Hours
Students are grouped into small team
Discussion is made by the teacher about assessing voice through patient history, quality, articulation and resonance, loudness and pitch variability, handling audiometer, speech analyzer, interpretation with *Mozhi thervu* mentioned by Siddhars (15 mins)

Each team will be allotted a patient in IPD and instructed to carry out *Mozhi thervu* (45 mins)
Conclude with key points that support the diagnosis (15 mins)
Present the findings (45 mins)

Experiential learning Activity

Experiential-Learning 4.1 : Treatment protocol and *Pathiyam* of *Vali Noigal* pertaining to ear

Total duration of the activity is 3 Hours
Students are divided into few teams and instructed to prepare a flow chart (15 mins)
Prepare a treatment plan for *Vali Noigal* of the ear by doing detailed literature search (1 hour)
Construct a flow chart *Vali Noigal* of ear and including the *Pathiyams*. (1 hour)
Submit to teacher for validation (45 mins)

Experiential-Learning 4.2 : Brand-Daroff exercise chart preparation

Total duration of the activity is 3 Hours
Explain the purpose and scope (5 mins)
Gather relevant information (15 mins)
Determine the exercise chart layout (10 mins)
Create the draft exercise chart (1 hour)
Review and revise (15 mins)
Finalize the chart (15 mins)
Test the exercise chart in a small group of individuals (45 mins)
Revise and refine the chart based on feedback and submit (15 mins)

Experiential-Learning 4.3 : Treatment protocol and dietary advice for *Vali Noigal* with nasal origin

Total duration of the activity is 1 Hour
Students will be divided into small groups.
Each group has to develop a comprehensive treatment protocol and *Pathiyam* for *Vali Noigal* of nasal origin by doing a systematic review of literature and make the presentation (1 hour)

Experiential-Learning 4.4 : External therapies for Nasal *Vali Noigal* - *Scientific research*

Total duration of the activity is 2 Hours Students are posted in external therapy department Students have to observe the various external therapy carried out for Nasal <i>Vali Noigal</i> Keep a record of prognosis (90 mins) Make a presentation on the basis of conclusion (30 mins)	
Experiential-Learning 4.5 : Patient simulation guidance on throat hygiene and voice conservation.	
Total duration of the activity is 2 Hours Each students is instructed to explain guidance for throat hygiene and voice conservation by simulation method. STEPS TO FOLLOW Setup simulation scenario, simulation room, simulation actor, equipments and prepare simulation script including strategies mentioned by Siddhars regarding throat hygiene and voice conservation (15 mins) Simulation station includes initial consultation, throat examination, education and demonstration on throat hygiene and voice conservation Conduct a debriefing session to discuss the experiences, challenges and learning (90 mins) Evaluation is done using a standardized evaluation form to assess their ability to educate the patients (15 mins)	
Experiential-Learning 4.6 : Project on Oral health education	
Total duration of the activity is 2 Hours Each Student is instructed to do a project on Oral health education based on resources in Siddha and Contemporary medical systems	
Modular Assessment	
Assessment method	Hour
Conduct a structured modular assessment. Assessment will be for 25 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per the table 6C Choose any one of the below-mentioned modular assessments. I. Short Answer Question (2 x 5=10 Marks) or VivaVoice (10 Marks) II. Simulated Patients, Case Based Assessment/Project/Interview (15 Marks) or Any practical in converted form can be taken for assessment (10 Marks) and	2

Any of the experiential as portfolio/ reflections /presentations can be taken as an assessment (15 Marks)

Semester No : 5

3A Course Outcome	3B Learning Objective (At the end of the (lecture/practical training /experiential learning) session, the students should be able to)	3C Notional learning Hours	3D Lecture/ Practical Training/ Experientia l Learning	3E Domain/ Sub Domain	3F Level (D oes/Sho ws how/ Knows h ow/Kno w)	3G Teachin g Learnin g Methods
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Module 5 : Vali Noigal pertaining to Bones, Joints and Connective tissues.

Module Learning Objectives

(At the end of the module, the students should be able to)

Describe the spectrum of Etiopathogenesis and detailed classification mentioned by various Siddhars, clinical features of each type and its relevance for differential diagnosis and prognosis of the diseases.

Conduct a thorough physical examination by taking detailed clinical history, careful use of knowledge of root, course, combination and permutation of *Valikkuttram* with other kuttrams in manifesting symptoms and signs, Interpretation of common and specific Siddha and contemporary diagnostic tools for early diagnosis, timely intervention and prediction of prognosis and to plan referral by adopting ethical principles.

Identify and apply evidence based treatment, management, stabilization and rehabilitation strategies, new therapeutic approaches including pharmacological and non pharmacological interventions, the need for and importance of interdisciplinary collaboration in management and to set SMART goals for healthier life.

M 5 Unit 1 Arthritis pertaining to Vertebral column(spondylo arthropathies)

Common characteristic features of Arthritis pertaining to Vertebral column (Spondylo arthropathies), *Vagaigal* (Types) mentioned by *Yugi*, *Kumbamuni* and other Siddhars, *Noi Varum Vazhi* (Etiopathogenesis), *Noi Kurigunangal* (Clinical features) of individual type, *Noi kanippu* (Diagnosis), *Noiyinpokku* (Prognosis) based on

Siddha and Modern investigatory and Clinical methods, *Maruthuva Vazhimurai* (Specific line of treatment). Details of Siddha therapeutics from various references including Internal and External medicines. Rational use of Therapeutics, *Pathiyam*, Prevention & Health education, National Health campaigns of AYUSH and components under NRHM, Review on Clinical Research papers. 5.1.1. *Ceganavatham* 5.1.2. *Aasuvathambavatham* (*Aswathambavatham*) 5.1.3. *Mooduvatham* 5.1.4. *Malaiththakambavatham* 5.1.5. *Kurisakirisavatham* 5.1.6. *Poosuvatham* 5.1.7. *Karna vartha nokkadu*

References: 1,4,5,28,30,31,40,41,44,45,46,58,83,84,85,90,96,102,104,105,145,147,149,150

3A	3B	3C	3D	3E	3F	3G
CO2,CO3	Describe the various classifications of <i>Vali Noigal</i> affecting the Vertebral column with an insight of Siddha and Modern Clinical knowledge.	2	Lecture	CC	Knows-how	L&PPT , BL,L,L&GD,BS
CO2,CO3	Discuss the <i>Mukkuttra</i> concept for each <i>Vali Noi</i> of vertebral column.	2	Lecture	CC	Knows-how	DIS,L,L&GD
CO3,CO4	Construct a protocol to the patient of <i>Vali Noigal</i> of Vertebral column about origin in detail using Siddha and Modern diagnostic tools and develop a disease specific therapeutic protocol.	4	Practical Training 5.1	PSY-MEC	Shows-how	D-BED,LRI,PER,C D,TBL
CO4	Revise the important external therapies like <i>Varma</i> , <i>Ottradam</i> etc. for the inpatients with vertebral column diseases	4	Practical Training 5.2	PSY-ADT	Shows-how	TBL,CBL,PER,DIS
CO2,CO3,CO7	Prepare and document a case report on Low back pain & Neck pain and design IEC material to educate patient, care giver and public at large.	5	Experiential-Learning 5.1	PSY-ORG	Does	CBL,PrB L
CO7	Summarize systematic review on the clinical research papers on <i>Vali Noigal</i> pertaining to vertebral column	5	Experiential-Learning 5.2	CAN	Does	DIS,TBL,PER,LS,ML
CO4	Demonstrate the important external therapies like <i>Varma</i> , <i>ottradam</i> etc. for the inpatients with upper & lower limb joint diseases	4	Practical Training 5.3	PSY-ADT	Shows-how	LS,L_VC,TBL,ML

M 5 Unit 2 Arthritis pertaining to Upper limb and Lower limb

Common characteristic features of Arthritis pertaining to Upper limb and Lower limb, *Vagaigal* (Types) mentioned by *Yugi*, *Kumbamuni* and other Siddhars, *Noi Varum Vazhi* (Etiopathogenesis), *Noi Kurigunangal* (Clinical features) of individual type, *Noi kanippu* (Diagnosis), *Noiyinpokku* (Prognosis) based on Siddha and Modern investigatory and Clinical methods, *Maruthuva Vazhimurai* (Specific line of treatment). Details of Siddha therapeutics from various references including Internal and External medicines. Rational use of Therapeutics, *Pathiyam*, Prevention & Health education, National Health campaigns of AYUSH and components under NRHM, Review on Clinical Research papers. 5.2.1. *Uthira vatha suronitham* 5.2.2. *Vatha suronitham* 5.2.3. *Paithiya vatha suronitham* 5.2.4. *Vaigitha vatha suronitham* 5.2.5. *Peivatham* 5.2.6. *Thalathambavatham* 5.2.7. *Narithalaivatham* 5.2.8. *Kalanjagavatham* 5.2.9. *Uthara vatha suronivatham* 5.2.10. *Santhuvatham* 5.2.11. *Kumbavatham*

References: 1,4,5,7,11,14,18,19,24,30,31,33,38,41,44,83,85,90,96,102,105,111,113,136,145,149,150

3A	3B	3C	3D	3E	3F	3G
CO2	Describe the Epidemiology, Signs & Symptoms for the various types of <i>Vali Noigal</i> of Upper limb & Lower limb given in <i>Yugi muni</i> and other Siddhar texts.	2	Lecture	CC	Knows-how	L&PPT
CO1,CO3	Describe the derangement of <i>Mukkutram</i> for each <i>Vali Noi</i> of upper limb & lower limb.	2	Lecture	CE	Knows-how	L&PPT
CO3	Perform detail clinical examination and interpret Siddha diagnostic principles and imaging studies to support the diagnosis of Arthritis	4	Practical Training 5.4	PSY-MEC	Shows-how	LRI,CBL, D-BED,PER,CD
CO4	Prepare classical specific therapeutic approaches for various types of <i>Vali Noigal</i> of limbs by categorizing on the basis of aetiology.	5	Experiential-Learning 5.3	PSY-ORG	Does	DIS,CBL
CO1,CO7	Summarize the role of genetics, environment and lifestyle factors in Arthritis development and its prevention.	5	Experiential-Learning 5.4	CAN	Does	LS,ML,Pr BL,SY

M 5 Unit 3 Types of Keelvayu as per Sababathi kaiyedu

Iyal (Definition), *Noi Varum Vazhi* (Etiology), *Vagaigal* (Types), *Mukkuutra verupadu* (Pathophysiology), *Noi Kurigunangal* (Clinical features), *Noi Kanippu* (Diagnosis), *Maruthuva Vazhimurai* (Line of treatment), *Sirappu Ulmaruthuvam & Veli Maruthuvam* (Specific Internal & External medicines) and *Pathiyam*. 5.3.1. *Vali keelvayu* 5.3.2. *Azhal keelvayu* 5.3.3. *Iya keelvayu* 5.3.4. *Vali azhal keelvayu* 5.3.5. *Vali iya keelvayu* 5.3.6. *Azhal vali keelvayu* 5.3.7. *Azhal iya keelvayu* 5.3.8. *Iya vali keelvayu* 5.3.9. *Iya azhal keelvayu* 5.3.10. *Mukkuutra keelvayu*

References: 1,4,5,6,7,19,24,28,31,35,41,44,45,46,58,83,85,102,135,149,150

3A	3B	3C	3D	3E	3F	3G
CO2	Categorize the types of <i>Keelvayu</i> mentioned in <i>Sababathy Kaiyedu</i> and relate them with <i>Yugi</i> classification	2	Lecture	CAN	Knows-how	L&PPT
CO2,CO4	Interpret the Clinical features based on the deranged <i>Vali</i> and its action to develop Specific Therapeutic approach.	2	Practical Training 5.5	PSY-ADT	Shows-how	PER,CD, TBL,CBL ,D-BED
CO7	Design a model to set SMART goals for a Healthier life with Arthritis.	6	Experiential-Learning 5.5	PSY-ORG	Does	C_L,BL,P BL,RP,Pr BL
CO4	Adapt the special therapeutic approaches for each type of <i>Keelvayu</i> mentioned in the text book and evaluate by analyzing and justifying,	2	Practical Training 5.6	PSY-ADT	Shows-how	TBL,DIS, PER

Practical Training Activity

Practical Training 5.1 : Developing a disease specific therapeutic protocol for *Vali Noigal* pertaining to vertebral column

Total duration of the activity is 4 Hours
 Demonstration by teacher (2 hours)
 Teacher shall discuss about *Vali Noigal* pertaining to vertebral column with clinical demonstration
 Prepare the patient for Clinical examination.
 Greet the patients & introduce yourself & take consent from the patient explaining the procedure.
 Stand on the right side of the patient & inquire about symptoms, onset, duration and previous treatment.
 Record the medical history including previous spinal conditions or surgeries
 Perform a thorough physical examination including,
 Inspection of the posture, spinal curvature & musculoskeletal alignment.
 Palpation of Spinous processes, Paraspinous muscles & Sacro iliac joints.
 Range of motion, assessing the flexibility & muscle strength.
 Order necessary investigations and images, interpret the findings
 Perform the Siddha examination through *Envagai thervu*, *Yakkai ilakkanam*

Arrive at a diagnosis based on Siddha & Modern clinical examination & identify the component of *Vali* which is affected.
 Formulate a personalized line of treatment.
 Develop a specific therapeutic protocol based on the diagnosis.
 Explanation by students (2 hours)
 Students are grouped into small teams and allotted a patient.
 The students should follow the teacher and has to present with their allotted patients.
 Later they have register in their logbook.

Practical Training 5.2 : Revisiting key external therapies for vertebral column diseases

Total duration of the activity is 4 Hours
 Teacher shall discuss about Varma and external therapies for *Vali Noigal* of vertebral column (1 hour)
 Students are grouped into small teams and assigned a case study of a patient.
 Ask each group to present their case study focusing on the importance of external therapies in patient's treatment plan (1 hour)
 After presentation facilitate a group discussion to compare and contrast the different external therapies used in each case study (1 hour)
 Finally, each group should present the key points for validation (1 hour)

Practical Training 5.3 : Key external therapies for Limb Joint disorders in Inpatients

Total duration of the activity is 4 Hours
 Teacher should provide students with a video lecture on the importance of external therapies for patients with upper and lower limb joint diseases (1 hour)
 Assign students to read relevant articles regarding the topic (1 hour)
 Conduct quiz to assess their understanding (2 hours) or
 Ask students to write a reflection paper on their learnings (2 hours)

Practical Training 5.4 : Integrating Siddha and Modern Diagnostics in Arthritis Evaluation

Total duration of the activity is 4 Hours
 Demonstration by teachers (2 hours)
 Prepare the patient for examination
 Take history, do physical examination using siddha and modern diagnostic principles
 Order necessary imaging and interpret
 Compile the findings
 Do differential diagnosis

Arrive diagnosis based on interpretations

Present the case

Presentation by Students (2 hours)

Students are grouped into small teams and allotted a patient of arthritis. students have to follow the teacher and has to present and record it their logbook.

Practical Training 5.5 : Interpreting the Clinical features based on the deranged *Vali* humour

Total duration of the activity is 2 Hours

Demonstration by Teacher (1 hour)

Prepare the patient for Clinical examination.

Greet the patients & introduce yourself & take consent from the patient by explaining the procedure.

Stand on the right side of the patient & take history of complaints and duration.

Perform the Siddha examination through *Envagai thervu*, *Seven Udal thathukkal*, *Kanma indriyam*, *Gnana indriyam*, *Yakkai ilakkanam*, *Mukkuttram*.

Arrive at a diagnosis based on Siddha clinical examination & identify the component of *Vali* which is affected.

Formulate a personalized line of treatment and present the case.

Demonstration by students (30 mts)

Following teacher, the student was grouped into teams, allotted with different patients and has to present (30 mts)

Practical Training 5.6 : Special Therapeutic Approaches for *Keelvayu*

Total duration of the activity is 2 Hours

Divide the Class into Groups: Each group is assigned one or more type of *Keelvayu*. Discuss about their *Keelvayu* type and the specific treatments given in the book. They should justify based on the Siddha concepts in front the teacher.

After the valuation phase, each group presents their therapeutic algorithm to the class (1 hour).

Do Jigsaw Activity: After all presentations, reorganize the groups so that each new group has at least one member from each original group. Each student shares the key points from their original group's presentation with their new group (30 mins).

Group Discussion: The new groups discuss the similarities and differences between the various types of *keelvayu* and its therapeutic algorithm, focusing on various external therapies, diet and lifestyle modification (30 mins).

Experiential learning Activity

Experiential-Learning 5.1 : Document a case report on Low back pain & Neck pain and design IEC material.

Total duration of the activity is 5 Hours
 Identify a patient suffering from low back pain or neck pain
 Gather the patient's consent to maintain ethical standards.
 Data collection: Collect the patient demo graphs, medical history, presenting symptoms, clinical findings, diagnosis management and treatment plans.
 Structure of the case reports documentation
 Identify the target audience (Patients, caregivers, general public).
 Decide on the IEC format for patient and Caregivers – Brochure/Pamphlet, Posters
 For public awareness – Social media campaigns, banners and flyers, workshops or community talks.
 Design IEC material.
 The IEC material strengthens communication by transition medical information into accessible, actionable advice for patients, caregivers and the general public.

Experiential-Learning 5.2 : Systematic Review of Clinical Research on *Vali Noigal* affecting the Vertebral Column

Total duration of the activity is 5 Hours
 Divide the Class into Groups: Each group is assigned a specific *Vali Noigal* pertaining to vertebral column
 Each group researches their assigned topic, focusing on its etiology, pathophysiology, common & specific treatments. They should gather information from textbooks, journal articles, and reputable online resources (1 hour)
 After the research phase, each group presents their findings to the class (1 hour)
 Jigsaw Activity: After all presentations, reorganize the groups so that each new group has at least one member from each original group. Each student shares the key points from their original group's presentation with their new group (1 hour)
 The new groups discuss the similarities and differences between the various vertebral disorders, focusing on common etiological factors and treatment approaches (1 hour)
 Conclude with a reflection session where students share what they learned and how the jigsaw activity helped them understand the material better. Provide feedback on their presentations and group discussions (1 hour)

Experiential-Learning 5.3 : Classical therapeutic approaches for Limb *Vali Noigal* based on aetiology

Total duration of the activity is 5 Hours
 Case based learning: Students may be instructed to develop specific therapeutic approach by interpreting the cause for a series of 5 patients with arthritis of limbs (3 hours).
 Discuss the similarities and dissimilarities among the findings (2 hours).

Experiential-Learning 5.4 : "Genetics, Environment & Lifestyle: their role in Arthritis and its prevention

Total duration of the activity is 5 Hours
 Analyze the role of genetics, environment and lifestyle factors impact on risks of arthritis development

Provide resources of genetic testing and counseling
 Provide resources on healthy lifestyle choices and arthritis prevention
 Create personalized plans for arthritis prevention based on the analysis for different age groups
 Utilize online resources and tools like genetic websites and environmental toxin data bases
 Encourage participants to use mobile apps and wearable devices to track their lifestyle and to monitor the progress
 Incorporate concepts from interdisciplinary professionals.

Experiential-Learning 5.5 : SMART goals for a Healthier life with Arthritis.

Total duration of the activity is 6 Hours
 Understand the importance of SMART goals (specific, measurable, achievable, relevant, time bound) for arthritis managements.
 Identify personal health needs and set realistic goals (2 hours).
 Practice problem solving through role-playing and scenario-based learning (2 hours).
 Build Self-awareness to track progress and adjust goals as needed (2 hours).

Modular Assessment

Assessment method	Hour
Conduct a structured modular assessment. Assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per the table 6C Choose any one of the below-mentioned modular assessments. I. Applied Based Questions (1 x 20 = 20 Marks) or Long Answer Questions of 2 questions (2 x 10 = 20 Marks) or Short Answer Questions of 4 questions (4 x 5 = 20 Marks) II. Case Based Assessment/Simulated Patients/Scenario based Assessment (20 Marks) III. VivaVoice/Quiz/Case Presentation (10 Marks) or Any practical in converted form can be taken for assessment (25 Marks) and Any of the experiential as portfolio/ reflections /presentations can be taken as an assessment (25 Marks)	4

3A Course Outcome	3B Learning Objective (At the end of the (lecture/practical training /experiential learning) session, the students should be able to)	3C Notional learning Hours	3D Lecture/ Practical Training/ Experientia l Learning	3E Domain/ Sub Domain	3F Level (D oes/Sho ws how/ Knows h ow/Kno w)	3G Teachin g Learnin g Methods
Module 6 : Vali Noigal pertaining to Uro-Genital system & Skin						
Module Learning Objectives (At the end of the module, the students should be able to)						
Describe the various Uro-genital manifestations in Siddhars texts, Female and Male disease classifications, <i>Mukkuttra verupadu</i> (Pathophysiology), <i>Kurigunangal</i> (Clinical presentations), <i>Noikanippu</i> (Diagnosis), <i>Noiyinpokku</i> (Prognosis), and <i>Maruthuva Vazhimurai</i> (Line of treatment), Specific treatment measures, and Diet & Lifestyle modifications. Conduct a physical examination for male and female separately, Interpret Siddha diagnostic procedures and contemporary tests and imaging, patient education as Uro-genital health. Identify the risks of developing <i>Putru noi</i> of organs of Uro-genital health, early detection and Integrated management strategies, indications for Uro-genital rehabilitation, Opportunities for Research and Clinical trials.						
M 6 Unit 1 Vali Noigal pertaining to Renal system						
Common characteristic features of <i>Vali Noigal</i> pertaining to Renal system, <i>Vagaigal</i> (Types) mentioned by <i>Yugi</i>, <i>Kumbamuni</i> and other Siddhars, <i>Noi Varum Vazhi</i> (Etiopathogenesis), <i>Noi Kurigunangal</i> (Clinical features) of individual type, <i>Noi kanippu</i> (Diagnosis), <i>Noiyinpokku</i> (Prognosis) based on Siddha and Modern investigatory and Clinical methods, <i>Maruthuva Vazhimurai</i> (Specific line of treatment). Details of Siddha therapeutics from various references including Internal and External medicines. Rational use of Therapeutics, <i>Pathiyam</i>, Prevention & Health education, National Health campaigns of AYUSH and components under NRHM, Review on Clinical Research papers. 6.1.1. <i>Salasthambavatham (Neerkattuvatham)</i> 6.1.2. <i>Muthra uthiravatham</i> 6.1.3. <i>Miguneer(Vatha neer-4)</i>						

References: 1,2,3,4,5,6,7,10,19,20,24,28,31,32,41,44,46,58,83,84,85,90,96,102,105,113,136

3A	3B	3C	3D	3E	3F	3G
CO3,CO4,CO5	Describe <i>Vali Miguneer</i> Characteristic features, Types, Clinical features, Pathogenesis, Curable & Incurable types, Diagnostic methods, <i>Avathaigal</i> and specific treatment with <i>Pathiyam</i> .	2	Lecture	CC	Knows-how	L&PPT
CO2,CO3	Demonstrate the various classifications of <i>Vali nNoigal</i> involving renal system based on their clinical presentations and interpret of Siddha and Contemporary diagnostic tools.	4	Practical Training 6.1	PSY-SET	Shows-how	D,DIS,C D,CBL,L RI
CO2,CO3	Compare <i>Meganeer avathaigal</i> with complications of renal diseases.	2	Experiential-Learning 6.1	CE	Does	TBL,DIS, PER
CO4,CO5	Construct a rational treatment protocol for <i>Meganeer</i> , prevention, management and rehabilitation.	3	Experiential-Learning 6.2	PSY-ORG	Does	IBL,PER, JC,LS

M 6 Unit 2 Vali Noigal pertaining to Male Reproductive system.

Common characteristic features of *Vali Noigal* pertaining to Male Reproductive system, *Vagaigal* (Types) mentioned by *Yugi*, *Kumbamuni* and other Siddhars, *Noi Varum Vazhi* (Etiopathogenesis), *Noi Kurigunangal* (Clinical features) of individual type, *Noi kanippu* (Diagnosis), *Noiyinpokku* (Prognosis) based on Siddha and Modern investigatory and Clinical methods, *Maruthuva Vazhimurai* (Specific line of treatment). Details of Siddha therapeutics from various references including Internal and External medicines. Rational use of Therapeutics, *Pathiyam*, Prevention & Health education, National Health campaigns of AYUSH and components under NRHM, Review on Clinical Research papers. 6.2.1. *Tantra vetti vatham* 6.2.2. *Peejas thambavatham* 6.2.3. *Mechchu vatham* 6.2.4. *Aswa vatham* 6.2.5. *Sukkilavatham*

References: 1,3,4,5,7,10,19,20,24,29,31,38,41,44,46,58,83,84,85,90,96,102,135,136

3A	3B	3C	3D	3E	3F	3G
CO2	Describe the types of <i>Vali Noigal</i> of Male genitalia mentioned by various Siddhars with their etiopathogenesis.	3	Lecture	CC	Knows-how	L&PPT
CO3	Construct a protocol for detailed physical examination and interpret Siddha and	3	Practical	PSY-	Shows-	D-BED,C

	contemporary diagnostic methods to support the diagnosis.		Training 6.2	MEC	how	D,LRI,TB L,CBL
CO2,CO4,CO5	Demonstrate the cause, <i>Mukkuttra</i> variation, Siddha & contemporary treatments , preventive measures for male infertility.	3	Practical Training 6.3	CE	Shows-how	TBL,CBL ,DIS,PER
CO4,CO6	Collect all available siddha therapeutics for the treatment of diseases of male genital organs.	4	Experiential-Learning 6.3	CS	Knows-how	ML,LS,IB L,PER
CO2,CO5	Identify the risk factors of developing Cancers of Male genital organs and plan patient education and Prevention care.	4	Experiential-Learning 6.4	PSY-ADT	Does	PrBL,PE R,ML,LS

M 6 Unit 3 Vali Noigal pertaining to Female Reproductive system.

Common characteristic features of *Vali Noigal* pertaining to Female Reproductive system, *Vagaigal* (Types) mentioned by *Yugi*, *Kumbamuni* and other Siddhars, *Noi Varum Vazhi* (Etiopathogenesis), *Noi Kurigunangal* (Clinical features) of individual type, *Noi kanippu* (Diagnosis), *Noiyin pokku* (Prognosis) based on Siddha and Modern investigatory and Clinical methods, *Maruthuva Vazhimurai* (Specific line of treatment). Details of Siddha therapeutics from various references including Internal and External medicines. Rational use of Therapeutics, *Pathiyam*, Prevention & Health education, National Health campaigns of AYUSH and components under NRHM, Review on Clinical Research papers. 6.3.1. *Attasoolai vatham* 6.3.2. *Karpasoolai vatham* 6.3.3. *Yonisoolai vatham* 6.3.4. *Guna avathanagam*

References: 1,4,9,10,19,28,31,32,41,44,46,58,83,84,85,90,96,102,105,135,136

3A	3B	3C	3D	3E	3F	3G
CO2	Describe the diseases of Female genital organs from various Siddhars texts.	2	Lecture	CC	Knows-how	L&PPT
CO4	Discuss in detail about the Siddha therapeutics available for <i>Vali Noigal</i> of Female genital organs.	1	Lecture	CC	Knows-how	L&GD,L &PPT ,L
CO3	Construct a protocol for female Uro-genital focused history and physical examination.	3	Practical Training 6.4	PSY-MEC	Shows-how	DIS,CBL, PrBL,PE R,D-BED

CO2,CO3,CO4	Discuss about female infertility in detail based on Siddha and contemporary system of medicines	3	Practical Training 6.5	CE	Shows-how	TBL,DIS,CBL,PER
CO7	Develop a mobile App on women's health on the basis of Siddha Principles.	4	Experiential-Learning 6.5	PSY-SET	Does	TPW,PrBL
CO7	Compose an integrative approach strategy on reproductive health in Special populations(Adolescents, LGBTQ)	4	Experiential-Learning 6.6	PSY-ORG	Does	TPW,PrBL

M 6 Unit 4 Vali Noigal pertaining to Skin

Common characteristic features of *Vali Noigal* pertaining to Skin, *Vagaigal* (Types) mentioned by *Yugi*, *Kumbamuni* and other Siddhars, *Noi Varum Vazhi* (Etiopathogenesis), *Noi Kurigunangal* (Clinical features) of individual type, *Noi kanippu* (Diagnosis), *Noiyinpokku* (Prognosis) based on Siddha and Modern investigatory and Clinical methods, *Maruthuva Vazhimurai* (Specific line of treatment). Details of Siddha therapeutics from various references including Internal and External medicines. Rational use of Therapeutics, *Pathiyam*, Prevention & Health education, National Health campaigns of AYUSH and components under NRHM, Review on Clinical Research papers. 6.4.1. *Kuttam* 6.4.2. *Karappan* 6.4.3. *Sithuvathasuronitham*

References: 1,4,5,7,12,16,26,28,29,30,31,41,42,44,45,46,58,83,85,90,93,96,102,105

3A	3B	3C	3D	3E	3F	3G
CO2	Discuss the <i>Vali Noigal</i> pertaining to skin mentioned by <i>Yugi</i> and describe the etiopathogenesis and line of treatment.	1	Lecture	CC	Knows-how	L&PPT
CO3	Adapt skill to refer complex and severe skin diseases based on the knowledge of diagnosis and prognosis.	1	Lecture	PSY-ADT	Knows-how	BL,DIS,CBL,L_VC,IBL
CO2,CO4	Identify the special features of <i>Thol putru</i> and managements mentioned in Siddha texts.	2	Practical Training 6.6	CAN	Shows-how	DIS,LS,PL,JC,ML
CO3	Demonstrate a thorough skin examination using Siddha & Contemporary diagnostic tools and interpret the findings to help Diagnosis.	2	Practical Training 6.7	PSY-MEC	Shows-how	CBL,D-BED,CD,TBL

CO4	Design a rational Siddha treatment protocol in the treatment of <i>Thol Noigal</i> .	2	Experiential-Learning 6.7	CE	Does	ML,IBL,LS,PER
CO7	Organize patient simulation and standardized patient encounters for <i>Thol Noigal</i>	3	Experiential-Learning 6.8	PSY-MEC	Does	SIM,DIS

Practical Training Activity

Practical Training 6.1 : Clinical presentation of Renal system

Total duration of the activity is 4 Hours

Students are divided into few teams and allotted with a patient of renal disease

Prepare the patient for clinical examination and take consent from the patient explaining the procedure

Perform physical examination {General and Systemic}

Perform the Siddha examination through *envagai thervu*, *7 Udal thathukkal*, *Kanma Indriyam*, *Gnana Indriyam*, *Yaakkai ilakkanam*

Interpret the lab test and images

Arrive at a diagnosis based on Siddha clinical examinations

Do differential diagnosis

Submit / present the case report

Can be done in patient simulation or with case scenario accordingly

Practical Training 6.2 : Clinical examination of Male reproductive system

Total duration of the activity is 3 Hours

Students are divided into small teams and allotted a patient in IPD

Prepare the patient for physical examination.

Stand on the right side of the patient and perform examination of male reproductive system

Perform Siddha diagnostic methods such as *Neerkuri*, *Neikuri*, *Envagai thervu*, *7 Udal thathukkal* to support the diagnosis.

Order and interpret the necessary lab tests and images

Arrive the diagnosis by interpreting the findings and differential diagnosis

Submit the report

Can be done by giving case scenario also, then the procedure should be inclass activity

Practical Training 6.3 : Case report on male infertility

Total duration of the activity is 3 Hours
Teacher has to discuss a case of male infertility using case scenario (1 hour)
Students are divided into small groups
Each group should do a case study in special OPD (1 hour)
Finally, students have to present the report in the class (1 hour)

Practical Training 6.4 : Examination of female Uro-genital system

Total duration of the activity is 3 Hours
Teacher has to discuss and demonstrate either physically or using video lecture (2 hours)
History taking
Physical examination
Urogenital system examination
Urodynamic testing, EMG, Colposcopy and Vaginal pH testing
Diagnosis and treatment plan
Students are instructed to construct a protocol or case sheet for female urogenital examination (1 hour)

Practical Training 6.5 : Clinical discussion on female infertility

Total duration of the activity is 3 Hours
Initially teacher should discuss and explain in detail about female infertility based on Siddha and contemporary system of medicines(1 hour)
Students are divided into small procedures groups to provide information
Each of them are allotted a topic such as definition, etiology, clinical examination, diagnostic methods and line of treatment for female infertility based on Siddha and contemporary system of medicines and instructed prepare for discussion(1 hour)
Use JIGSAW activity for discussion and present in the class before teacher(1 hour)

Practical Training 6.6 : Special features and managements of *Thol putru*

Total duration of the activity is 2 Hours
Teacher has to guide the students to identify the special features of *Thol putru* from various Siddha texts and journals (30 minutes)
Then Students are instructed to classify the features based on types, clinical features, severity and collect the management for *Thol putru* as mentioned in Siddha texts with indicated line of treatment (1 hour)
After collecting data, validate them by peer-review and present in journal club meet (30 minutes)

Practical Training 6.7 : Clinical examination of Skin using Siddha and modern tools

Total duration of the activity is 2 Hours

Teacher should demonstrate a thorough skin examination using Siddha & Contemporary diagnostic tools (1 hour)

Students are divided into small groups, and each group is given a patient with skin disease

Use the census to examine the skin

Examine specific areas of skin such as face, neck, trunk, arms and legs

Use ABCDE method to examine the skin

Interpret and document the findings and submit for validation (1 hour)

Experiential learning Activity**Experiential-Learning 6.1** : *Meganeer avathaigal* - Clinical discussion

Total duration of the activity is 2 Hours

Students are grouped into small teams

Each team is instructed to search databases related to *Meganeer Avaithaigal* and complications of renal diseases.

One group will explore and discuss the step-by-step process of identifying *Meganeer Avaithaigal* (30 minutes).

The other group will explore and discuss the complications associated with renal diseases (30 minutes)

Use jigsaw activity

Present a comparative analysis of *Meganeer Avaithaigal* and renal disease complications in the class (1 hour)

Experiential-Learning 6.2 : Constructing treatment protocol for *Meganeer*- Qualitative Study

Total duration of the activity is 3 hours

Students are instructed to collect the rational treatment procedures, prevention, management and rehabilitation methods by doing a detailed literature search and interviewing practitioners including traditional practitioners for *Meganeer*.

Collect the data, analyze and validate

Make a presentation or publication

Experiential-Learning 6.3 : Data collection of Siddha therapeutics for the diseases of male genital organs.

Total duration of the activity is 4 Hours

Students are instructed to collect all available Siddha therapeutic by doing detailed literature search on treatment of diseases of male genital organs.

Conduct interviews with practitioners including traditional practitioners
Summarize the data and submit the report

Experiential-Learning 6.4 : Screening & Education on Cancers of Male genital organs

Total duration of the activity is 4 Hours

Conduct a literature review on risk factors for cancers of male genital organs (eg. testicular, prostate, penile cancer).

Analyze case studies of patients with cancers of male genital organs to identify common risk factors.

Create a patient assessment tool to identify individuals at high risk for cancers of male genital organs

Develop a patient education brochure or presentation on risk factors and prevention strategies.

Develop a prevention care plan, including screening recommendations and lifestyle modifications.

Validate the plan in a camp or cancer care center.

Experiential-Learning 6.5 : Development of a mobile App on women's health

Total duration of the activity is 4 Hours

Identify common health issues faced by women and how siddha principles can be applied to address them.

Develop a content strategy for the mobile app, including topics such as Menstrual health and hygiene

Pregnancy care nutrition

Menopause management

Mental health and stress management

Nutrition and diet

Yoga and meditation.

Consult and collaborate with software professionals for design and development

Conduct testing for usability and security

Launch the app through institution and track user feedback for validation and improvement

Experiential-Learning 6.6 : Preparation of Integrative approach strategy for reproductive health in Special populations.

Total duration of the activity is 4 Hours

Instruct the students to develop a comprehensive and culturally sensitive strategy addressing reproductive health needs in special populations through an integrative approach combining medical, psychological, social, and community-based interventions.

Target Populations may include:

Adolescents

Individuals with disabilities LGBTQ+ community Migrant or refugee populations Rural or underserved communities Women with chronic illnesses (e.g., HIV, diabetes, etc.) Finally, submit the protocol	
Experiential-Learning 6.7 : Composition of rational Siddha treatment protocol for the treatment of <i>Thol Noigal</i>.	
Total duration of the activity is 2 Hours Students are instructed to collect the rational treatment procedures, prevention, management and rehabilitation methods by doing a detailed literature search and interviewing clinical practitioners including traditional practitioners for <i>Thol Noigal</i>. Collect the data, analyze and validate Make a presentation or publication.	
Experiential-Learning 6.8 : Simulation and standardization of patient encounters for <i>Thol Noigal</i>	
Total duration of the activity is 3 Hours Create a simulation scenario. Setup a mock dermatology clinic Train simulation actors Develop a detailed simulation script of patients profile Simulation stations should include History taking, physical examination, diagnostic testing, treatment and management Conduct a debriefing session to discuss the experiences, challenges and learning points Evaluation will be done using standardized evaluation form by the teacher	
Modular Assessment	
Assessment method	Hour
Conduct a structured modular assessment. Assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per the table 6C Choose any one of the below-mentioned modular assessments. I. Long Answer Questions of 2 questions (2 x 10 = 20 Marks)	4

or
 Short Answer Questions of 4 question (4 x 5 = 20 Marks)
 II. Class presentation or Viva voice or Simulated patients or Scenario based Assessment (20 Marks)
 III. Spotters or Mini CEX (10marks)
 or
 Any practical in converted form can be taken for assessment (25 Marks)
 and
 Any of the experiential as portfolio/ reflections /presentations can be taken as an assessment (25 Marks)

Semester No : 6

3A Course Outcome	3B Learning Objective (At the end of the (lecture/practical training /experiential learning) session, the students should be able to)	3C Notional learning Hours	3D Lecture/ Practical Training/ Experientia l Learning	3E Domain/ Sub Domain	3F Level (D oes/Sho ws how/ Knows h ow/Kno w)	3G Teachin g Learnin g Methods
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Module 7 : Vali Noigal pertaining to Abdomen

Module Learning Objectives

(At the end of the module, the students should be able to)

Describe the Epidemiology, *Mukkuttra verupadu* (Etiopathogenesis), *Kurigunangal* (Clinical presentations), *Vagaigal* (Types) and nature of *Vali Noigal* affecting Gastrointestinal system, perform the diagnostic procedures of both Siddha and contemporary system, Simplify the line of treatment, specific treatment and management strategies including *Pathiyam*.
 Conduct a comprehensive Gastrointestinal focussing history, physical examinations, Interpretations of Siddha diagnostic procedures, laboratory tests and imaging related to Gastrointestinal system, patient educations on disease prevention and management.
 Identify the risk factors and predisposing conditions for Gastrointestinal diseases signs and symptoms of Gastrointestinal emergencies, complications, opportunities for preventive care and research scope in Gastrointestinal medicine.

M 7 Unit 1 Vali Noigal pertaining to Upper part of abdomen.

Common characteristic features of *Vali Noigal* pertaining to Upper part of abdomen, *Vagaigal* (Types) mentioned by *Yugi*, *Kumbamuni* and other Siddhars, *Noi Varum Vazhi* (Etiopathogenesis), *Noi Kurigunangal* (Clinical features) of individual type, *Noi kanippu* (Diagnosis), *Noiyinpokku* (Prognosis) based on Siddha and Modern investigatory and Clinical methods, *Maruthuva Vazhimurai* (Specific line of treatment). Details of Siddha therapeutics from various references including Internal and External medicines. Rational use of Therapeutics, *Pathiyam*, Prevention & Health education, National Health campaigns of AYUSH and components under NRHM, Review on Clinical Research papers. 7.1.1. *Uragarivatham* 7.1.2. *Atchebagavatham*(*Anobagavatham*) 7.1.3. *Utharavatham* 7.1.4. *Mantham* 7.1.5. *Gunmam*

References: 1,2,4,5,7,11,17,23,24,25,28,30,31,32,36,39,41,42,44,46,58,83,84,85,90,96,102,103,113,136

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Classify <i>Gunmam</i> described by various Siddhars and explain the etiopathogenesis and clinical features based on <i>Trihumoral</i> theory.	2	Lecture	CC	Knows-how	L&GD
CO3	Discuss Gastrointestinal focusing history & physical examination methods.	2	Lecture	CAP	Knows-how	L_VC
CO3,CO5	Interpret Siddha diagnostic procedures, laboratory tests and imaging related to Gastrointestinal system, patient educations on disease prevention and management.	4	Practical Training 7.1	PSY-GUD	Shows-how	PER,LRI,ML,LS,DIS
CO3,CO7	Arrange a diagnostic workshop for <i>Gunmam</i> <i>Mantham</i> <i>Uragarivatham</i> <i>Utharavatham</i>	4	Practical Training 7.2	CAN	Shows-how	TBL,W
CO4	Identify evidence based treatments and management strategies for <i>Vali Noigal</i> of upper abdomen origin.	4	Experiential-Learning 7.1	CAN	Does	ML,PL,PER

CO6	Systematic review on Hepato protective drugs	3	Experiential-Learning 7.2	CE	Does	LS,ML,PER
CO3	Categorize and differentiate the <i>Neerkuri</i> and <i>Neikuri</i> for various diseases of abdominal origin including liver diseases	4	Experiential-Learning 7.3	PSY-MEC	Does	DIS,PER,CBL,TBL

M 7 Unit 2 Vali Noigal pertaining to Intestine.

Common characteristic features of *Vali Noigal* pertaining to Intestine, *Vagaigal* (Types) mentioned by *Yugi*, *Kumbamuni* and other Siddhars, *Noi Varum Vazhi* (Etiopathogenesis), *Noi Kurigunangal* (Clinical features) of individual type, *Noi kanippu* (Diagnosis), *Noiyinpokku* (Prognosis) based on Siddha and Modern investigatory and Clinical methods, *Maruthuva Vazhimurai* (Specific line of treatment). Details of Siddha therapeutics from various references including Internal and External medicines. Rational use of Therapeutics, *Pathiyam*, Prevention & Health education, National Health campaigns of AYUSH and components under NRHM, Review on Clinical Research papers. 7.2.1. *Koonivatham* 7.2.2. *Mahavatham* 7.2.3. *Mruthuvatham* 7.2.4. *Vasuvatham* 7.2.5. *Thandagavatham* 7.2.6. *Kudalvatham*

References: 1,4,5,7,11,12,17,24,27,28,31,36,37,44,46,58,83,84,85,90,96,102,105,113,135

3A	3B	3C	3D	3E	3F	3G
CO2	Describe the <i>Vali Noigal</i> of intestinal origin and compare with the other texts mentioned by various Siddhars.	2	Lecture	CC	Knows-how	L&PPT
CO2,CO4,CO5	Discuss the line of treatment and specific treatment and <i>pathiyam</i> for <i>Vali Noigal</i> pertaining to intestine.	1	Lecture	CC	Knows-how	L&GD
CO2,CO3	Differentiate the etiology, clinical features and specific investigations of intestinal diseases on the basis of Siddha principles.	6	Practical Training 7.3	CAN	Shows-how	LS,TBL,ML,DIS,PER
CO5	Design a model for Siddha preventive care in Intestinal diseases for effective communication.	4	Experiential-Learning 7.4	PSY-ORG	Does	TBL,PL,PER
CO4	Conduct a simple case study by using self-made one or two medicine for <i>Vali Noigal</i> of intestinal origin(Irritable Bowel Syndrome).	4	Experiential-Learning 7.5	PSY-ORG	Does	PL,LS,PrBL

M 7 Unit 3 Vali Noigal pertaining to Ano Rectal region

Common characteristic features of *Vali Noigal* pertaining to Ano rectal region, *Vagaigal* (Types) mentioned by *Yugi*, *Kumbamuni* and other Siddhars, *Noi Varum Vazhi* (Etiopathogenesis), *Noi Kurigunangal* (Clinical features) of individual type, *Noi kanippu* (Diagnosis), *Noiyinpokku* (Prognosis) based on Siddha and Modern investigatory and Clinical methods, *Maruthuva Vazhimurai* (Specific line of treatment). Details of Siddha therapeutics from various references including Internal and External medicines. Rational use of Therapeutics, *Pathiyam*, Prevention & Health education, National Health campaigns of AYUSH and components under NRHM, Review on Clinical Research papers. 7.3.1. *Eruvaimulainoi* 7.3.2. *Powthiram*

References: 1,4,5,7,10,12,19,20,22,28,31,32,41,44,46,58,83,84,85,90,92,96,102,104,135

3A	3B	3C	3D	3E	3F	3G
CO2,CO3	Demonstrate the prognosis of <i>Vali Noigal</i> of anorectal origin based on clinical presentation and diagnostic methods.	3	Lecture	CC	Knows-how	L&PPT
CO3	Demonstrate & Interpret stool studies (<i>Malakuri</i>) in Anorectal diseases and other relevant lab tests.	3	Practical Training 7.4	PSY-ADT	Shows-how	L_VC,DSN,D,LRI
CO2,CO3	Interpret the various types of Anorectal diseases in Siddha based on rectal bleeding, Anal pain, Pruritic ani, rectal discharge and constipation.	3	Practical Training 7.5	CE	Shows-how	L_VC,TBL,PER
CO5	Attend training program in <i>Karanool</i> unit for one week	7	Experiential-Learning 7.6	PSY-ADT	Does	PER

Practical Training Activity

Practical Training 7.1 : Interpretating Siddha and modern diagnostic procedures of gastrointestinal system.

Total duration of the activity is 4 Hours

Students are instructed to

Make a list of Siddha and Modern diagnostic tools related to Gastrointestinal diseases

Define the purpose of the investigation.

Describe the experimental procedures and techniques used.

Present the data collected during the investigation, using tables and graphs.

Interpret the results, compare them with existing literature, and discuss their implications.
Summarize the findings and suggest disease prevention and management plans.

Practical Training 7.2 : Workshop organization for

Gunmam

Mantham

Uragarivatham

Utharavatham

Total duration of the activity is 4 Hours

Workshop: Students are divided into team and assigned any one of the disease to conduct workshop

Workshop objectives includes

Provide an overview of the disease

To discuss the causes, symptoms and diagnosis

To explore the latest treatment and management strategies

To provide a platform to share experiences and best practices for experts

Invite CRRIS and other PG students for workshop.

Conclude with reflection session and feedback.

Practical Training 7.3 : Differentiating the intestinal diseases.

Total duration of the activity is 6 Hours

Students are grouped into small teams

Each group is given a specific intestinal disease and instructed to prepare the details using Siddha texts.

Engage the teams in presentation & group discussion in the classroom

Teacher should conclude the key points of discussion

Practical Training 7.4 : Interpreting Laboratory tests in Anorectal diseases

Total duration of the activity is 3 Hours

Teacher has to demonstrate & discuss through video lectures about stool studies and other relevant laboratory test in Anorectal diseases and their interpretation (2 hour)

Detailed discussion of *Malakuri* mentioned by Siddhars

Students are asked to submit report on key points of the discussion (1 hour)

Practical Training 7.5 : Interpretation of Anorectal diseases

Total duration of the activity is 3 Hours

Students are grouped into small team

Each team of Students was assigned a type of Anorectal diseases.

Ask them to prepare, present and justify their findings in the classroom with the support of Video clips.

Experiential learning Activity**Experiential-Learning 7.1** : Evidence based treatments and management strategies for *Vali noi* of upper abdomen origin.

Total duration of the activity is 4 Hours

Do a detailed literature search from various texts and journals regarding Evidence based treatments and management strategies for *Vali noi* of upper abdomen origin.

Develop treatment and management strategies using the collected data

Peer review it

Make a presentation.

Experiential-Learning 7.2 : Systematic review on Hepato protective drugs

Total duration of the activity is 3 Hours

Literature search: Conduct a comprehensive literature search on Hepatoprotective drugs, using databases like PubMed, Scopus and Web of science.

Systematic Review Report: students submit a systematic review report, including an introduction, methods, results, discussion and conclusion.

Present or publish a report.

Experiential-Learning 7.3 : *Neerkuri* and *Neikuri* for various diseases of abdominal origin

Total duration of the activity is 4 Hours

Jigsaw activity

Divide the Students into small groups

Assign each group a case study of a patient with an abdominal disease

Ask each group to read their case study and identify key symptoms, signs and diagnostic findings, *Neerkuri* and *Neikuri*.

Ask them to write worksheets by filling the findings of their assigned case study.

Ask each group to share their findings in the class.

After completing the presentation ask the other group to identify the disease and provide the reasoning

Encourage discussion and debate among the groups After all groups have presented review the key differences between the various abdominal diseases and submit the report.	
Experiential-Learning 7.4 : Siddha preventive care in Intestinal diseases	
Total duration of the activity is 4 Hours Divide students into teams to design a model of Siddha preventive care for intestinal diseases, considering factors like diet & lifestyle modifications. Students present their preventive care plans to their peers. Students create posters or infographic illustrating their Siddha preventive care model.	
Experiential-Learning 7.5 : Case study for <i>Vali Noigal</i> of intestinal origin (IBS).	
Total duration of the activity is 4 Hours Ask students to do literature search and select one authentic evidence based preparation for <i>Vali Noigal</i> of intestinal origin. Prepare a protocol for conducting a case study. Do a case study with the selected medicine. Collect and analyze the data and discuss the effectiveness of their preparations. Review and provide feedback on each other's case studies and preparations by doing peer review. Assess their own learning and identify areas for improvement.	
Experiential-Learning 7.6 : Practical training in <i>Karanool</i>	
Total duration of the activity is 7 Hours Attend the training program, engage in sessions and take note on key learnings. Prepare a presentation to share learnings and experiences with others. Develop an action plan to implement learnings and skills acquired during the training program.	
Modular Assessment	
Assessment method	Hour
Conduct a structured modular assessment. Assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per the table 6C Choose any one of the below-mentioned modular assessments. I. Long Answer Questions of 1 question (1 x 10 = 10 Marks)	4

or
 Short Answer Questions of 2 question (2 x 5 = 10 Marks)
 II. Class presentation or Viva voice or Quiz or Debate or Compilations (20 Marks)
 III. Mini CEX or Simulated patients or Scenario based Assessment or OSCE (20 Marks)
 or
 Trainers report on Karanool or Simple case study on IBS (20 Marks)
 or
 Any practical in converted form may take for an assessment (25 Marks)
 and
 Any of the experiential as portfolio/ reflections /presentations can be taken as an assessment (25 Marks)

3A Course Outcome	3B Learning Objective (At the end of the (lecture/practical training /experiential learning) session, the students should be able to)	3C Notional learning Hours	3D Lecture/ Practical Training/ Experientia l Learning	3E Domain/ Sub Domain	3F Level (D oes/Sho ws how/ Knows h ow/Kno w)	3G Teachin g Learnin g Methods
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Module 8 : Siddha Oncology

Module Learning Objectives

(At the end of the module, the students should be able to)

Describe the Epidemiology, Risk factors, Predisposing factors, Classifications by various siddhars, Clinical presentations, Diagnosis, Staging, Complications and Principles of cancer treatment on the basis of both Siddha and Contemporary medical principles.
 Conduct a comprehensive Siddha focused physical examination, Interpret the modern diagnostic tests for confirming the findings arrived by Siddha diagnostic tools, Risk assessments, Counselling, therapy planning, Palliative care and end of life care discussions on the basis of Siddha principles.
 Identify the emerging cancer treatment plans, research studies, effectiveness of screening programmes and early detection, prevention and control strategies, Role of genetics molecular biology in cancer development, Psychosocial and emotional impacts of cancer in patients and families to recommend modifications in treatment plans and to develop individualized Siddha treatment plans and Integrative approach.

M 8 Unit 1 General considerations of Putru Noi and Vippruthi

8.1.1. Introduction to Risk factors 8.1.2. Predisposing conditions mentioned by Siddhars with Special insight of genetics and molecular biology.

References: 1,2,4,13,14,15,26,28,31,34,41,42,85,102

3A	3B	3C	3D	3E	3F	3G
CO2	Describe the <i>Iyal</i> , epidemiology, types mentioned in various references, <i>Putru Noi</i> of various organs mentioned by <i>Yugi</i> and other Siddhars.	2	Lecture	CC	Knows-how	L&PPT
CO2	Relate the Risk factors, Predisposing factors mentioned by <i>Siddhars</i> to Genetics and Molecular biology.	4	Practical Training 8.1	CAN	Shows-how	PER,LS,ML,TUT
CO1,CO7	Predict the <i>Thegi</i> (Temperament) prone for developing <i>Putru Noi</i> based on Siddha principles and construct a pedigree	5	Experiential-Learning 8.1	CE	Does	TUT,PrB L,CBL

M 8 Unit 2 Siddha Pathogenesis and Diagnosis of Putru Noi.

8.2.1. *Mukuttraiyal* (Pathophysiology) in *Putru Noi* 8.2.2. Variations of manifestation in different organs involved 8.2.3. Descriptions of clinical features by Siddhars 8.2.4. Diagnostic principles including *Naadi*, *Neikuri* etc., 8.2.5. *Envagai thervugal* 8.2.6. Interpretations of modern diagnostic tests 8.2.7. Staging, risk assessments and prognosis by Siddha and contemporary methods.

References: 2,3,4,14,15,28,42,46,83,85,90,92,96,102,127

3A	3B	3C	3D	3E	3F	3G
CO3	Describe the pathophysiology, diagnostic principles, clinical presentation of different types and staging on the basis of principles.	2	Lecture	CC	Knows-how	L&PPT
CO3	Demonstrate a detailed history taking, physical examination and Siddha diagnostic	4	Practical	PSY-	Shows-	LRI,PER,

	procedures to diagnose <i>Putru Noi</i> and confirm it by interpreting modern diagnostic techniques.		Training 8.2	MEC	how	TBL,DIS
CO5,CO7	Evaluate cancer patient's response to treatment, Survivorship and followup care to conduct palliative care and end of life care discussions.	5	Experiential-Learning 8.2	AFT-VAL	Does	CBL,DIS, FV

M 8 Unit 3 Cancer Management-Specialized approach.

- 8.3.1. Pain management & Palliative care.
- 8.3.2. Psychological support
- 8.3.3. Rehabilitation survivorship.
- 8.3.4. Integrative care.
- 8.3.5. End-of-life care and Hospice

References: 4,13,14,15,33,102,107

3A	3B	3C	3D	3E	3F	3G
CO2	Apply the principles of <i>Siddha</i> in the line of treatment.	1	Lecture	CAP	Knows-how	L&GD
CO4,CO6	Appraise the various forms of <i>Siddhar Perumarunthugal</i> in the treatment of <i>Putru Noi</i> and choose the unique <i>Perumarunthugal</i> in specific type of cancer.	2	Lecture	CE	Knows-how	L&PPT
CO5	Apply the role of <i>Siddhar kayakalpam</i> in the management and survivorship of <i>Putru Noi</i> patient.	6	Practical Training 8.3	PSY-MEC	Shows-how	DIS,PER
CO7	Identify the importance of integrated approach in <i>Putru Noi</i> patient. Discuss the importance of vaccination in Cancer prevention.	8	Experiential-Learning 8.3	CC	Does	PrBL,CB L,FV

M 8 Unit 4 Therapeutic approaches for Putru Noi

- 8.4.1. Siddha Medicines (Internal & External)

8.4.2. *Perumarunthugal* (Higher order Medicines)

8.4.3. *Kayakalpa Marunthugal*. 8.4.4. Contemporary therapies. 8.4.5. Curative potency of *Siddhar Perumarunthagal* in *Putru Noi* treatment. 8.4.6. Potential side effects of cancer treatment and the role of siddha medicines to combat them. 8.4.7. Siddha principles of Prevention, Diet, Lifestyle modifications and *Kayakalpam*.

8.4.8. Cancer research and guidelines to stay up to date with knowledge. 8.4.9. Research and Clinical trials

References: 5,6,13,15,20,21,22,28,33,34,35,37,42

3A	3B	3C	3D	3E	3F	3G
CO5	Discuss the potency of Siddha system in palliative care and nutritional support for a cancer patient.	3	Lecture	CC	Knows-how	TUT,DIS
CO3,CO7	Conduct screening for risk assessments of cancer and provide counselling to promote prevention and early diagnosis.	6	Practical Training 8.4	PSY-GUD	Shows-how	LRI,CBL, BL
CO7	Construct a model Integrated Care centre for an End stage Cancer patient.	8	Experiential-Learning 8.4	PSY-ORG	Does	TPW

Practical Training Activity

Practical Training 8.1 : Genetics and Molecular biology of Cancers.

Total duration of the activity is 4 Hours

Teacher has to discuss about *Kanma Noigal* and genetic disorders.

Students are instructed to evaluate the evidence of risk factors and predisposing factors of cancer by reviewing scientific literatures and data from epidemiological studies.

Ask the students to discuss or write a reflection paper on

How genetic mutation and epigenetic changes contribute to cancer development

How environmental and lifestyle factors interact with genetic and molecular factors to increase the cancer risk.

How predisposing factors such as genetic predisposition and molecular alteration increases an individual's susceptibility to cancer.

Summarize the key points and present to teacher.

Practical Training 8.2 : Correlation of clinical findings and diagnostic techniques [Both Siddha and Modern]

Total duration of the activity is 4 Hours

Divide the class into small group assign each group a case study of a cancer patient

Provide each group with a diagnostic report and clinical findings for their assigned case study

Ask each group to

- Correlate the clinical findings with a diagnostic reports
- Identify the type of cancer and its stage
- Discuss the treatment options and prognosis

Ask each group to present their findings and conclusion

Encourage class discussion and debate on different case studies.

Teacher should monitor and evaluate the discussions and assess the student's performance

Practical Training 8.3 : Application of *Siddhar Kayakalpam* in *Putru Noi*

Total duration of the activity is 6 Hours

Teacher has to discuss about the benefits of *Kayakalpam* in cancer survivorship

Facilitate a class discussion of the role of *Siddhar Kayakalpam* in the management and survivorship of *Putru Noi* patient.

Assessment will be made by the teacher based on participation and engagement during the discussion and quality of presentation and communication skill of the patient.

Practical Training 8.4 : Screening and Counseling Session.

Total duration of the activity is 6 Hours

Teacher has to explain the screening steps to screening and counseling to promote prevention and early diagnosis of *Putru Noi*.

The students are instructed for written reflection on screening and counselling sessions on the basis of observation

Submit the reflection report to the teacher for validation.

Experiential learning Activity

Experiential-Learning 8.1 : *Thegi* prone for developing *Putru Noi*

Total duration of the activity is 5 Hours

Students are divided into small teams, and each team is assigned with one patient.

They are instructed to follow step up step guide to construct a pedigree.

Step 1: Gather information about the family history of cancer

Step 2: Determine the body constitution(*Thega ilakkanam*)

Step 3: Identify cancer prone traits.

Step 4: Construct a pedigree using standard symbols and notations

Step 5: Analyze the pedigree to identify patterns and trends.
Step 6: Provide genetic counseling to the individual and family members.
The activity should be supervised by teacher.

Experiential-Learning 8.2 : Palliative care discussions in Cancer.

Total duration of the activity is 5 Hours
Students has to visit in cancer hospitals/palliative care centers.
Students are instructed to evaluate and conduct palliative care discussion submit the report.
The steps include
Assess patient's physical symptoms
Assess patient's emotional and psychological symptoms
Assess patient's social and spiritual needs
Assess patient's functional status
Then conduct palliative care discussion.
1.Establish a therapeutic relationship
2. Explore patient's goals and values
3. Discuss prognosis and treatment options
4. Address patient's console and fears.
5. Invoke family members and care givers.
6. Develop a care plan

Experiential-Learning 8.3 : Learning the integrated approach and vaccination in *Putru Noi* patient.

Total duration of activities is 8 Hours
Students are introduced to the topic and instructed to do a project in an integrated cancer care centre and submit the report
They can frame a comprehensive guide to identify the importance of an integrated approach in cancer patients.
Key components of an integrated approach

- Multidisciplinary team
- Coordinated care

OR

- Patient-centered care
- Evidence based practice.

Experiential-Learning 8.4 : Construction of Integrated Care Centre for cancer patient.

Total duration of the activity is 8 Hours

Introduce the topic to the students

Students are divided into small teams and instructed to construct a model of Integrated Care Centre for an End stage Cancer patient.

Steps involved

Step 1: Define the mission and vision

Step 2: Conduct needs assessment

Step 3: Develop a care model

Step 4: Define the physical space.

Step 5: Develop policies and procedures.

Step 6: Establish partnership and collaboration

Step 7: Evaluate and improve

Step 8: Ensure the sustainability.

Modular Assessment

Assessment method

Hour

Conduct a structured modular assessment. Assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per the table 6C

Choose any one of the below-mentioned modular assessments.

I. Applied Based Questions (1 x 20 = 20 Marks)

or

Long Answer Questions of 2 questions (2 x 10 = 20 Marks)

or

Short Answer Questions of 4 question (4 x 5 = 20 Marks)

II. Class presentation or Mini CEX or Simulated Patients or

Scenario based Assessment or OSCE (20 Marks)

4

III.Project/Trainers report / Log book /VivaVoice or Quiz (10 Marks)	
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or

Any practical in converted form can be taken for an assessment (25 Marks)

and

Any of the experiential as portfolio/ reflections /presentations can be taken as an assessment (25 Marks)

Paper No : 2 Principles and Practice of Siddha Maruthuvam - Azhal and Iya Noigal						
Semester No : 3						
Module 9 : General considerations of Azhal and Iya diseases on the basis of Siddha System of Medicine						
Module Learning Objectives (At the end of the module, the students should be able to) Describe the basic functioning of <i>Azhal</i> and <i>Iyam</i>, their predominant locations, properties, pathological changes in diseased condition, types and its function, periods of <i>Thannilai Valarchi</i>, <i>Vetrunilai Valarchi</i> and <i>Thannilai adaidal</i> Conduct Siddha clinical examination, on <i>Azhal</i> and <i>Iyam</i> in the patient based on <i>Envagai Thervu</i>, <i>Ezhu Udal Kattu</i>, Identify the role of <i>Azhal</i>, <i>Iyam</i> in derangement of 14 natural urges, features of <i>Azhal</i> and <i>Iya Udal</i> and their changes in pathological states and influence of <i>Azhal</i> and <i>Iyam</i> on five <i>kosams</i>						
M 9 Unit 1 General Characteristic features of Azhal 9.1.1 Predominant location, shape of <i>Azhal</i> 9.1.2 Properties and basic functioning of <i>Azhal</i> and seasons in which <i>Azhal</i> is aggravated 9.1.3 <i>Azhal migu gunam</i> and <i>kurai gunam</i> 9.1.4 Influence of <i>Azhal</i> on other humours References: 2,91						
3A	3B	3C	3D	3E	3F	3G
CO1	Describe the location, properties, basic functioning of <i>Azhal</i> and seasons in which <i>Azhal</i> is aggravated and demonstrate the <i>Azhal migu gunam</i> and <i>kurai gunam</i> (Increasing and decreasing characters).	2	Lecture	CAP	Knows-how	L&PPT ,REC

CO1	Demonstrate the properties and basic functioning of <i>Azhal</i> and seasons in which <i>Azhal</i> is aggravated and <i>Azhal migu gunam</i> and <i>kurai gunam</i> (Increasing and decreasing characters) in the given patient	4	Practical Training 9.1	PSY-GUD	Shows-how	CBL,D,DIS
CO1	Assess the <i>Azhal migu gunam</i> and <i>kurai gunam</i> (Increasing and decreasing characters) and influence of <i>Azhal</i> on other humours in the patient	6	Experiential-Learning 9.1	PSY-MEC	Does	CBL,PER

M 9 Unit 2 Significance of derangement of *Azhal* in human body

9.2.1 Significance of derangement of *Azhal* in human body 9.2.2 The pathological changes of *Azhal* in deranged conditions 9.2.3 *Thannilai valarchi*, *vetrunilai valarchi* and *thannilai adaithal* (Augmenting and diminishing features) of *Azhal* 9.2.4 Characteristic features and diagnosis of *Azhal* diseases by *envagaithervu* and other siddha clinical tools Role of *Azhal* in derangement of 14 natural urges, features of *Azhal udal*, and influence of *Azhal* in five *kosams*

References: 2,91

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Describe the pathological changes of <i>Azhal</i> in deranged conditions and its impact in other humors	3	Lecture	CK	Knows-how	PER,L&PPT
CO1,CO2	Demonstrate the characteristic features and diagnosis of <i>Azhal</i> diseases by <i>envagai thervu</i> and other siddha diagnostic tools	6	Practical Training 9.2	PSY-GUD	Shows-how	D-BED,C D,CBL
CO1,CO2	Identify the <i>Thannilai valarchi</i> , <i>vetrunilai valarchi</i> and <i>thannilai adaithal</i> (Augmenting and diminishing features) of <i>Azhal</i> and the role of <i>Azhal</i> in derangement of 14 natural urges, features of <i>Azhal udal</i> , and influence of <i>Azhal</i> in five <i>kosams</i>	7	Experiential-Learning 9.2	PSY-GUD	Shows-how	DIS,CBL

M 9 Unit 3 General Characteristic features of *Iyam*

9.3.1 Predominant location, shape of *Iyam* 9.3.2 Properties and basic functioning of *Iyam* and seasons in which *Iyam* is aggravated 9.3.3 *Iyam migu gunam* and *kurai gunam* 9.3.4 Influence of *Iyam* on other humours

References: 91

3A	3B	3C	3D	3E	3F	3G
CO1	Describe the location, properties and basic functioning of <i>Iyam</i> and seasons in which <i>Iyam</i> is aggravated and demonstrate the <i>Iya migu gunam</i> and <i>kurai gunam</i> (Increasing and decreasing characters).	2	Lecture	CK	Knows-how	L&PPT
CO1,CO2	Demonstrate the properties, basic functioning of <i>Iyam</i> and seasons in which <i>Iyam</i> is aggravated with <i>Iya migu gunam</i> and <i>kurai gunam</i> (Increasing and decreasing characters).	4	Practical Training 9.3	PSY-GUD	Shows-how	CBL,DIS, D-BED
CO1,CO2	Demonstrate the <i>Iyam migu gunam</i> and <i>kurai gunam</i> (Increasing and decreasing characters) , influence of <i>Iyam</i> on other humours and find out its seasonal variations.	6	Experiential-Learning 9.3	PSY-SET	Does	TPW,CBL

M 9 Unit 4 Significance of derangement of *Iyam* in human body

9.4.1 Significance of derangement of *Iyam* in human body 9.4.2 The pathological changes of *Iyam* in deranged conditions 9.4.3 *Thannilai valarchi*, *vetrunilai valarchi* and *thannilai adaithal* (Augmenting and diminishing features) of *Iyam* 9.4.4 Characteristic features and diagnosis of *Iyam* diseases by *envagaithervu* and other siddha clinical tools Role of *Iyam* in derangement of 14 natural urges, features of *Iyam udal*, and influence of *Iyam* in five *kosams*

References: 2,91

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Assess <i>Thannilai valarchi</i> , <i>vetrunilai valarchi</i> and <i>thannilai adaithal</i> of <i>Iyam</i> and the role of <i>Iyam</i> in derangement of 14 natural urges, features of <i>Iya udal</i> and influence of <i>Iyam</i> in five <i>kosams</i> .	7	Experiential-Learning 9.4	PSY-MEC	Does	CBL,DIS, PL
CO1,CO2	Describe the pathological changes of <i>Iyam</i> in deranged conditions and its impact on other humors	3	Lecture	CAN	Knows-how	L&PPT ,L
CO1,CO2	Demonstrate the characteristic features and diagnosis of <i>Iyam</i> diseases by <i>envagaithervu</i> and other siddha diagnostic tools	6	Practical Training 9.4	PSY-MEC	Shows-how	D-BED,CBL,CD

Practical Training Activity

Practical Training 9.1 : Properties and Functioning of *Azhal*

Total duration of the activity is 4 Hrs.

I. Teacher demonstration of clinical examination (1 Hr)

II. Clinical examination by student (2 Hr)

1. Prepare the person for clinical examination
2. Greet the person and introduce yourself and take consent from the person by explaining the procedure.
3. Teacher will explain how to perform the Siddha examination to assess the components of *Azhal*
4. Elicit the impact of seasonal variations of *Azhal* and assess the *Azhal migu* and *kurai gunangal*

III. Discussion and Assessment by teacher (1 Hr)

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 9.2 : Examination of *Azhal* and its types

Total duration of the activity is 6 Hrs.

I. Teacher demonstration of examination of the types *Azhal* (2 Hr)

II. Clinical examination by student in presence of teacher (2 Hr)

1. Prepare the patient for clinical examination
2. Introduce yourself and take consent from the patient explaining the procedure.
3. Stand on the right side of the patient and take history, complaints and duration.
4. With the guidance of the faculty perform the Siddha examination through *Envagai thervu*, *7 Udal thaathukkal*, *Kanma Indriyam*, *Gnana Indriyam*, *Yaakkai ilakkanam*, derangements of humors and other siddha diagnostic tools
5. Arrive at a diagnosis based on Siddha clinical examinations and identify the component of *Azhal*, which is affected.

III. Discussion and Assessment by teacher (2 Hr)

At the end of the activity, students should submit a report to the concerned faculty

Practical Training 9.3 : Examination of *Iyam* and its types.

Total duration of the activity is 4 Hrs.

I. Teacher demonstration of clinical examination of types of *Iyam* (1 Hr)

II. Clinical examination by student in presence of Teacher (2 Hr)

1. Prepare the person for clinical examination
2. Greet the person and introduce yourself and take consent from the person explaining the procedure.
3. Teacher will explain how to perform the Siddha examination to assess the components of *iyam*
4. Elicit the impact of seasonal variations of *iyam* and assess the *Iya migu* and *kurai gunangal*
5. Prepare a poster depicting the results of the observations

III. Discussion and Assessment by teacher (1 Hr)

At the end of the activity, students should submit a report to the concerned faculty

Practical Training 9.4 : Examination of *Iya* diseases

Total duration of the activity is 6 Hrs.

I. Teacher demonstration of clinical examination of *Iya* disease (2 Hrs)

II. Clinical examination by student in presence of teacher.(2 Hrs)

1. Prepare the patient for clinical examination
2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.
3. Stand on the right side of the patient and take history, complaints and duration.
4. With the guidance of faculty perform the Siddha examination through *Envagai thervu*, *7 Udal thaathukkal*, *Kanma Indriyam*, *Gnana Indriyam*, *Yaakkai ilakkanam*, derangements of humors etc.

5. Arrive at a diagnosis based on Siddha clinical examinations and identify the component of *Iyam*, which is affected.

III. Discussion and Assessment by teacher (2 Hrs)

At the end of the activity, students should submit a report to the concerned faculty

Experiential learning Activity

Experiential-Learning 9.1 : Influence of *Azhal* on other humours.with seasonal variations

Total duration of the activity is 6 Hrs.

1. Case Presentation - Assessment of *Azhal migu gunam*, *Kurai gunam* and its influence in body humours (2 Hrs)
2. Group Discussions - Analyze the seasons in which the *Azhal* is aggravated. (2 Hrs)
3. Puzzles – Assess *Thega ilakkanam* of Students. (2 Hrs)

Submit the case report to the faculty.

Experiential-Learning 9.2 : Impact of *Azhal* and its influence in 14 natural urges, 5 *kosams* and seasonal variations.

Total duration of the activity is 7 Hrs.

1. Clinical examination of 5 OPD/IPD patients to assess the types of *Azhal*. (2 Hrs)
2. Case presentation-Derangement of 14 Natural urges by *Azhal* and influence of *Azhal* in five *kosams*. (2 Hrs)
3. Debate – *Thannilai Valarchi*, *Vetrunilai Valarchi* and *Thannilai Adaithal of Azhal*. (2 Hrs)
4. Interpreting the text of various Siddhars in this topic (1 Hr)

Present the report to the faculty.

Experiential-Learning 9.3 : Influence of *Iyam* on other humours with seasonal variations

Total duration of the activity is 6 Hrs.

1. Preparation of Report - By analyzing the types of *Iyam* in an individual (2 Hrs)
2. Team Project Work - Analyze the seasons in which the *Iyam* is aggravated (2 Hrs)
3. Puzzles – *Thega ilakkanam* (2 Hrs)

Submission of report to the teacher.

Experiential-Learning 9.4 : Impact of *Iyam* and its influence in 14 natural urges, 5 *kosams* and seasonal variations.

Total duration of the activity is 7 Hrs.

1. Clinical Examination - *Iyam* types for 5 OPD/IPD patients (1 Hr)
2. Discussion – Derangement of *Iya udal* and its influence in 5 *Kosams* (2 Hrs)
3. Quiz-*Thannilai valarchi* and *vetru nilai valarchi*. (2 Hrs)
4. Peer Learning - Role of *Iyam* in 14 natural urges and study the *Neikuri* methods in *Iya noi*. (2 Hrs)

At the end of the activity, students should submit a report to the concerned faculty.

Modular Assessment

Assessment method	Hour
Conduct a structured Modular assessment. Assessment will be for 50 marks. Keep structured marking pattern. Use different assessment methods in each module for the semester. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table 6 C. PORTFOLIO ASSESSMENT -50 Marks Encourage students to actively gather and organize evidence. • Steps: 1. Allow students to compile their portfolio over time, ensuring regular updates. 2. Use digital platforms (e.g., e-portfolios) for easy submission and review. 3. Provide periodic check-ins or deadlines for specific sections to ensure progress. 5. Evaluation Criteria and Rubrics Evaluation Steps: 50 marks Students submit their portfolio (physical or digital) by a specified deadline. 1. Planning & Organization –10 Marks	4

- Selection of appropriate content
- Clear objectives and goals
- Logical structure and coherence

2. Content Quality -20 Marks

- Depth and accuracy of information
- Creativity and originality
- Reflection and critical thinking

3. Presentation & Design –10 Marks

- Clarity and neatness
- Use of visuals, charts, or multimedia
- Professional formatting

4. Self-Reflection & Analysis –5 Marks

- Personal insights and learning experiences
- Connections to real-world applications
- Future improvement plans

5. Completion & Submission ---5Marks

- All required components included
- Timely submission
- Proper citations and references (if applicable)

2. Faculty or a review panel assesses the portfolio using the rubric.

3. Focus on evidence that demonstrates learning outcomes, growth, and reflective practice of basic functions, pathological changes on *Azhal* and *Iyam* or

Any practical in converted form can be taken for assessment. (25 Marks) - 2 hour and

Any of the experiential as presentations can be taken as assessment. (25 Marks) - 2 hours

Module 10 : Kuruthi Azhal and Respiratory system diseases related to Azhal and Iyam

Module Learning Objectives

(At the end of the module, the students should be able to)

1. Describe the *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis), *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features), *Theerum & Theera Nilai* (Curable & Incurable states) and *Maruthuva Vazhi muraigal* (Treatment protocol) of *Kuruthiazhal*, *Peenisam*, *Kuralkammal*, *Erumal*, *Eraipu*, *Elaipu* and *Ulaimeathai*.
2. Conduct a clinical examination for *Kuruthiazhal* (*Raktha pitham*), *Peenisam*, *Kuralkammal*, *Erumal*, *Eraipu*, *Elaipu* and *Ulaimeathai* in a patient to assess the *Mukkutra Verupadu* by *Envagai Thervu* and other Siddha diagnostic tools, Perform *Noikanippu vivatham* (Differential diagnosis) to arrive the diagnosis.
3. Identify the clinical condition of the patient by performing clinical examination for *Kuruthiazhal*, *Peenisam*, *Kuralkammal*, *Erumal*, *Eraipu*, *Elaipu* and *Ulaimeathai*. Customize the *Maruthuva Vazhi muraigal* (Treatment protocol) and suggest *Pathiyam* and *Unavu murai* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis and National Health programmes) and analyze the available research papers.

M 10 Unit 1 Kuruthi Azhal (Systemic hypertension & Bleeding Disorders)

10.1.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 10.1.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 10.1.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 10.1.4 *Mukkutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools) 10.1.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal* (Treatment protocol) 10.1.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 10.1.7 Modern diagnostic tools 10.1.8 Recent advances through research papers of *Kuruthiazhal*, AYUSH campaigns and National health programmes related to the disease if applicable.

References: 1,4,5,7,83,85,91

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO3,CO4,CO5,CO	Describe <i>Kuruthi Azhal</i> , its synonyms, etiopathogenesis, premonitory symptoms, clinical features, types, curable, incurable states and treatment regimen.	2	Lecture	CS	Knows-how	L&GD

6						
CO1,CO2,CO3 ,CO4,CO5,CO 6	Demonstrate the clinical features, types, Curable & Incurable states and <i>Mukkutra verupadu</i> of <i>Kurthi Azhal</i> and perform siddha clinical examinations through <i>envagai thervu</i> and other siddha diagnostic tools to justify the diagnosis by discriminating with differential diagnosis	4	Practical Training 10.1	PSY-GUD	Shows-how	CBL,CD, LRI,DIS, D-BED
CO1,CO2,CO3 ,CO4,CO5,CO 6	Identify the clinical conditions of <i>Kuruthiazhal</i> ,design a proper treatment protocol by analysing deranged humors and modern diagnostic tools ,advice proper diet regulation , life style modification and also integrate the knowledge about prophylaxis, recent advances through research papers and search for any AYUSH Campaign, National Health Programmes and Plan for further research scope by applying the knowledge gained from various classical siddha literatures and Journals.	4	Experiential-Learning 10.1	PSY-MEC	Does	LS,CBL, TUT

M 10 Unit 2 Peenisam (Sinusitis)

10.2.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 10.2.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 10.2.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 10.2.4 *Mukkutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools) 10.2.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol) 10.2.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 10.2.7. Modern diagnostic tools 10.2.8 Recent advances through research papers of *Peenisam*

References: 1,4,5,7,67,68,83,85,91,94

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO3	Describe <i>Peenisam</i> and discuss its synonyms, etiopathogenesis, premonitory symptoms, clinical features, types, curable, incurable states and treatment regimen.	1	Lecture	CK	Knows-how	L,L&PPT
CO1,CO2,CO3	Demonstrate the clinical features, types, curable & incurable states and <i>Mukkutra verupadu</i> of <i>Peenisam</i> , perform the siddha clinical examinations through <i>envagai thervu</i> and other siddha diagnostic tools to justify the diagnosis by discriminating with	2	Practical Training 10.2	PSY-GUD	Shows-how	DIS,LRI, D-BED,C BL,CD

	differential diagnosis.					
CO1,CO2,CO3 ,CO4,CO5,CO 6	Identify the clinical conditions of <i>Peenisam</i> and design a proper treatment protocol by analysing deranged humors and modern diagnostic tools and advice proper diet regulation, life style modification and also integrate the knowledge about prophylaxis and plan for further research scope by applying the knowledge gained from various classical siddha literatures and Journals.	3	Experiential-Learning 10.2	PSY-MEC	Does	LRI,BL,C BL,ML,X-Ray

M 10 Unit 3 Kuralkammal (Hoarseness of Voice)

10.3.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 10.3.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 10.3.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 10.3.4 *Mukkuutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools) 10.3.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol) 10.3.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 10.3.7 Modern diagnostic tools 10.3.8 Recent advances through research papers of *Kuralkammal*

References: 1,4,5,7,83,85,91

3A	3B	3C	3D	3E	3F	3G
CO1	Describe <i>Kuralkammal</i> and discuss its synonyms, etiopathogenesis, premonitory symptoms, clinical features, types, curable, incurable states and treatment regimen.	1	Lecture	CS	Knows-how	L,L&PPT
CO1,CO2,CO3	Demonstrate the clinical features, types, curable & incurable states and <i>Mukkuutra verupadu</i> of <i>Kuralkammal</i> , perform the siddha clinical examinations through <i>envagai thervu</i> and other siddha diagnostic tools to justify the diagnosis by discriminating with differential diagnosis.	2	Practical Training 10.3	PSY-GUD	Shows-how	D-BED,C D,CBL,L RI,DIS
CO1,CO2,CO3 ,CO4,CO5,CO 6	Identify the clinical conditions of <i>Kuralkammal</i> , design a proper treatment protocol by analysing deranged humors and modern diagnostic tools and advice proper diet regulation, life style modification and also integrate the knowledge about prophylaxis, recent advances through research papers and plan for further research scope by applying	2	Experiential-Learning 10.3	PSY-MEC	Does	TUT,CBL ,ML

the knowledge gained from various classical siddha literatures and Journals.

M 10 Unit 4 Erumal (Cough)

10.4. 1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 10.4.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 10.4.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 10.4.4 *Mukkuutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools) 10.4.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol) 10.4.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 10.4.7 Modern diagnostic tools 10.4.8 Recent advances through research papers of *Erumal*.

References: 1,4,5,7,74,83,85,91

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Describe <i>Erumal</i> and discuss its synonyms, etiopathogenesis, premonitory symptoms, clinical features, types, curable, incurable states and treatment regimen.	2	Lecture	CS	Knows-how	L,L&GD
CO1,CO2,CO3	Demonstrate the clinical features, types, curable & incurable states and <i>mukkuutra verupadu</i> of <i>Erumal</i> , perform the Siddha clinical examinations through <i>envagai thervu</i> and other siddha diagnostic tools to justify the diagnosis by discriminating with differential diagnosis.	4	Practical Training 10.4	PSY-GUD	Shows-how	D-BED,X-Ray
CO1,CO2,CO3 ,CO4,CO5,CO6	Identify the clinical conditions of <i>Erumal</i> , design a proper treatment protocol by analysing deranged humors and modern diagnostic tools ,advice proper diet regulation, life style modification and also integrate the knowledge about prophylaxis, recent advances through research papers and plan for further research scope by applying the knowledge gained from various classical siddha literatures and Journals.	6	Experiential-Learning 10.4	PSY-MEC	Does	CBL,TUT ,LRI

M 10 Unit 5 Eraippu (Bronchial Asthma)

10.5.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 10.5.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 10.5.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 10.5.4 *Mukkuutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools) 10.5.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol) 10.5.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal*

(Prophylaxis or vaccination if available) 10.5.7 Modern diagnostic tools 10.5.8 Recent advances through research papers of *Eraippu* 10.5.9 AYUSH campaigns and National health programmes related to the disease if applicable.

References: 1,4,5,7,63,64,83,85,91

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Describe <i>Eraipu</i> and discuss its synonyms, etiopathogenesis, premonitory symptoms, clinical features, types, curable, incurable states and treatment regimen.	1	Lecture	CAP	Knows-how	L_VC,L
CO1,CO2,CO3	Demonstrate the clinical features, types, curable & incurable states and <i>mukutra verupadu</i> of <i>Eraipu</i> , perform the Siddha clinical examinations through <i>envagai thervu</i> and other siddha diagnostic tools to justify the diagnosis by discriminating with differential diagnosis.	2	Practical Training 10.5	PSY-GUD	Shows-how	DIS,CBL, D-BED,C D,LRI
CO1,CO2,CO3,CO4,CO5,CO6	Identify the clinical conditions of <i>Eraipu noi</i> and design a proper treatment protocol by analysing deranged humors, modern diagnostic tools and advice proper diet regulation, life style modification and also integrate the knowledge about prophylaxis, and plan for further research scope by applying the knowledge gained from various classical siddha literatures and Journals.	3	Experiential-Learning 10.5	PSY-MEC	Does	CBL,DIS, TUT,ML

M 10 Unit 6 Elaippu (Pulmonary and Extra-pulmonary Tuberculosis)

10.6.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 10.6.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 10.6.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 10.6.4 *Mukutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools) 10.6.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol) 10.6.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 10.6.7 Modern diagnostic tools 10.6.8 Recent advances through research papers of *Elaippu* 10.6.9 AYUSH campaigns and National health programmes related to the disease if applicable.

References: 1,4,5,7,61,64,80,83,85,91

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3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Define <i>Elaipu</i> and discuss its synonyms, etiopathogenesis, premonitory symptoms, clinical features, types, curable, incurable states and treatment regimen.	2	Lecture	CAP	Knows-how	L_VC
CO1,CO2,CO3	Demonstrate the clinical features, types, curable & incurable states and mukutra verupadu of Elaipunoi and perform the Siddha clinical examinations through envagai thervu and other siddha diagnostic tools to justify the diagnosis by discriminating with differential diagnosis.	4	Practical Training 10.6	PSY-GUD	Shows-how	CBL,LRI, CD,DIS, D-BED
CO1,CO2,CO3 ,CO4,CO5,CO 6	Identify the clinical conditions of <i>Elaipu noi</i> and design a proper treatment protocol by analysing deranged humors and modern diagnostic tools and advice proper diet regulation, life style modification and also integrate the knowledge about prophylaxis, recent advances through research papers and search for any AYUSH Campaign, National Health Programmes and plan for further research scope by applying the knowledge gained from various classical siddha literatures and Journals.	6	Experiential-Learning 10.6	PSY-MEC	Does	ML,DIS,F V,X-Ray,LS

M 10 Unit 7 Ulaimanthai (Acute/ Chronic Enteritis)

10.71 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 10.7.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 10.7.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 10.7.4 *Mukutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools) 10.7.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol) 10.7.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 10.7.7 Modern diagnostic tools 10.7.8 Recent advances through research papers of *Ulaimanthai* 10.7.9 AYUSH campaigns and National health programmes related to the disease if applicable.

References: 1,4,5,7,61,64,76,80,83,85,91

3A	3B	3C	3D	3E	3F	3G
CO1,CO2,CO3 ,CO4,CO5,CO 6	Define <i>Ulaimanthai</i> and discuss its synonyms, etiopathogenesis, premonitory symptoms, clinical features, types, curable, incurable states and treatment regimen.	1	Lecture	CAN	Knows-how	L_VC,L

CO1,CO2,CO3	Demonstrate the clinical features, types, curable & incurable states and <i>mukkutra verupadu</i> of <i>Ulaimanthai</i> , perform the Siddha clinical examinations through <i>envagai thervu</i> and other siddha diagnostic tools to justify the diagnosis by discriminating with differential diagnosis.	2	Practical Training 10.7	PSY-GUD	Shows-how	SIM,D,DIS,CBL,C D
CO1,CO2,CO3,CO4,CO5,CO6	Identify the clinical conditions of <i>Ulaimanthai</i> and design a proper treatment protocol by analysing deranged humors and modern diagnostic tools and advice proper diet regulation, life style modification.	2	Experiential-Learning 10.7	AFT-RES	Does	DIS,SIM

Practical Training Activity

Practical Training 10.1 : Clinical examination of *Kuruthi Azhal* (Systemic hypertension and Bleeding disorders)

Total duration of the activity is 4 Hrs

I. Teacher demonstration of clinical examination of *Kuruthi Azhal* (1 Hr)

II. Clinical examination by student in the presence of teacher (2 Hr)

1. Prepare the patient for clinical examination
2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.
3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.
4. Perform the Siddha examination for *Envagai thervu*, 7 *Udal thaathukkal*, *Kanma Indriyam*, *Gnana Indriyam*, *Yaakkai ilakkanam*, derangements of humors under the supervision of teacher
5. Determine the type of the disease and interpret whether it is curable or incurable.
6. Assess the affected systems by performing the inspection, palpation, auscultation and other modern diagnostic tools such as urine analysis, CBC, blood chemistry (pottasium, sodium, creatinine, lipid profile and ECG if needed).
7. Arrive at a proper diagnosis based on differential diagnosis, other examinations, clinical features and other parameters.
8. Formulate a personalized line of treatment based on altered humors and advise oil bath and appropriate internal and external medicine and advise diet regulation and life style modifications.

III. Discussion and Assessment by teacher (1Hr)

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 10.2 : Clinical examination of *Peenisam*

Total duration of the activity is 2 Hrs.

I. Teacher demonstrates the clinical examination of Peenism (30 Minutes)

II. Clinical examination by student in the presence of teacher (1 Hr)

1. Prepare the patient for clinical examination
2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.
3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.
4. Perform the Siddha examination for *Envagai thervu*, *7 Udal thaathukkal*, *Kanma Indriyam*, *Gnana Indriyam*, *Yaakkai ilakkanam*, derangements of humors in the presence of faculty
5. Examine the sinuses, Ear, Nose and Throat, Take X-ray, CT-Scan, and lab test include CBC, C-reactive protein, allergy test
6. Arrive at a proper diagnosis based on differential diagnosis, other examinations, clinical features and other parameters.
7. Formulate a personalized line of treatment based on altered humors and advise oil bath, purgation, *Nasiyam*, *Nasigaparanam*, *Pugai*, *Vedhu*, *Pattru* and appropriate internal and external medicine and advise diet regulation and life style modifications.

III. Discussion and Assessment by teacher (30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty

Practical Training 10.3 : Clinical examination of *Kural kammal*

Total duration of the activity is 2 Hrs.

I. Teacher demonstration of clinical examination for *Kural Kammal* (. (30 Minutes)

II. Clinical examination by student in the presence of teacher (1 Hr)

1. Prepare the patient for clinical examination
2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.
3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.
4. Perform the Siddha examination for *Envagai thervu*, *7 Udal thaathukkal*, *Kanma Indriyam*, *Gnana Indriyam*, *Yaakkai ilakkanam*, derangements of humors with

guidance of teacher

5. Perform throat swab culture, CT, MRI, Biopsy

6. Assess the upper respiratory system, Throat examination and if needed perform laryngoscopy

7. Arrive at a proper diagnosis based on differential diagnosis, other examinations, clinical features and other parameters.

8. Formulate a personalized line of treatment based on altered humors and advise oil bath and appropriate internal and external medicine and advise diet regulation and life style modification.

III. Discussion and Assessment by teacher . (30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 10.4 : Clinical Examination of *Erumal*

Total duration of the activity is 4 Hrs.

I. Teacher demonstration of clinical examination of a case of *Erumal* (1 Hr)

II. Clinical examination by student in the presence of teacher (2 Hr)

1. Prepare the patient for clinical examination

2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.

3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.

4. Perform the Siddha examination for *Envagai thervu*, *7 Udal thaathukkal*, *Kanma Indriyam*, *Gnana Indriyam*, *Yaakkai ilakkanam*, derangements of humors under the supervision of faculty

5. Assess the Respiratory system by performing the inspection, palpation, percussion and auscultation perform other modern diagnostic tools like X-ray, CT scan, blood test, sputum test and CBC.

6. Arrive at a proper diagnosis based on differential diagnosis, other examinations, clinical features and other parameters.

7. Formulate a personalized line of treatment based on altered humors and advise oil bath, purgation, and appropriate internal and external medicine and advise diet regulation and life style modification.

III. Discussion and Assessment by teacher (1 Hr)

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 10.5 : Clinical examination of *Eraippu Noi*

Total duration of the activity is 2 Hrs.

I. Teacher demonstrates the clinical examination of *Eraippu Noi* . (30 Minutes)

II. Clinical examination by student in the presence of teacher (1 Hr)

1.Prepare the patient for clinical examination

2.Greet the patient and introduce yourself and take consent from the patient explaining the procedure.

3.Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals in the presence of facilitator

4.Perform the Siddha examination for *Envagai thervu*, *7 Udal thaathukkal*, *Kanma Indriyam*, *Gnana Indriyam*, *Yaakkai ilakkanam*, derangements of humors

5.Assess the Respiratory system by performing the inspection, palpation, percussion and auscultation and other modern diagnostic tools- Spirometry, CBC, IgE, FeNO Test, allergy test, chest X-ray, CT , MRI

6.Arrive at a proper diagnosis based on differential diagnosis, other examinations, clinical features and other parameters.

7.Formulate a personalized line of treatment based on altered humors and appropriate internal and external medicine and advise diet regulation and life style modification.

III. Discussion and Assessment by teacher . (30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 10.6 : Clinical examination of *Elaippu*

Total duration of the activity is 4 Hrs.

I. Teacher demonstrates the clinical examination of *Elaippu Noi* (1 Hr)

II. Clinical examination by student in the presence of teacher (2 Hr)

1. Prepare the patient for clinical examination

2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.

3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.

4. Perform the Siddha examination for *Envagai thervu*, *7 Udal thaathukkal*, *Kanma Indriyam*, *Gnana Indriyam*, *Yaakkai ilakkanam*, derangements of humors with the guidance of teacher.

5. Assess the Respiratory system by performing the inspection, palpation, percussion and auscultation, abdominal examination, examination of lymph nodes, joints and bones and other modern diagnostic tools like sputum for AFB, CBC, Mantoux, IGRA, CB-NAAT, CT, MRI.
6. Arrive at a proper diagnosis based on differential diagnosis, other examinations, clinical features and other parameters.
7. Formulate a personalized line of treatment based on altered humors and advise *Vamanam*, Purgation, and appropriate internal and external medicine and advise diet regulation, life style modification.

III. Discussion and Assessment by teacher (1 Hr)

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 10.7 : Clinical examination of *Ulaimanthai*

Total duration of the activity is 2 Hrs.

I. Teacher demonstration of clinical examination of *Ulaimanthai* (30 Minutes))

II. Clinical examination by student in the presence of teacher (1 Hr)

1. Prepare the patient for clinical examination
2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.
3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.
4. Perform the Siddha examination for *Envagai thervu*, *7 Udal thaathukkal*, *Kanma Indriyam*, *Gnana Indriyam*, *Yaakkai ilakkanam*, derangements of humors in the presence of instructor
5. Assess the respiratory and abdominal examination ,perform AFB test, tuberculin skin test, IGRA, CB-NATT
6. Arrive at a proper diagnosis based on differential diagnosis, other examinations, clinical features and other parameters.
7. Formulate a personalized line of treatment based on altered humors and advise appropriate internal and external medicine Prescribed for *Elai pu Noi* and advice diet regulation, life style modification.

III. Discussion and Assessment by teacher (30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty

Experiential learning Activity

Experiential-Learning 10.1 : Assessment of *Kuruthi Azhal*

Total duration of the activity is 4 Hrs.

1. Perform clinical examination for *Kuruthiazhal* in 5 OPD/IPD patients, advise dietary regulation, life style modifications. (1Hr)
2. Seminar –To UG students to explain the clinical features of *kuruthiazhal noi*. (1Hr)
3. Library Session – To Design the treatment plan, analyse case studies and health programme. (1Hr)
4. Conduct-Screening and awareness camps. (1Hr)

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 10.2 : Assessment of *Peenism*

Total duration of the activity is 3 Hrs.

1. Perform the clinical examination of *Peenisam* in 5 OPD/IPD patients and advice dietary regulation, life style modification. (1Hr)
2. Drug Analysis – Based on the humor affected for the patient. (30 Minutes)
3. Critical reading papers - Journal exploration, Research article review.. (30 Minutes)
4. Lab report interpretation and radiological findings. (1Hr)

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 10.3 : Assessment of *Kural kammal*

Total duration of the activity is 2 Hrs.

1. Perform clinical examination for *Kuralkammal* in 5 OPD/IPD patients, advice dietary regulation, life style modification.(1Hr)
2. Reviewing research papers.(30 Minutes)
3. Conducting seminars to UG students.(30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 10.4 : Assessment of *Erumal*

Total duration of the activity is 6 Hrs.

1. Perform the siddha clinical examination of *Erumal* for a minimum of 10 OPD/IPD patients. (2Hrs)
2. Perform Respiratory system examination in the same patient. (1Hr)
3. Interpret lab diagnosis, X-Ray and CT-scan. (1Hr)
4. Library session to review about the drugs for treatment of *Erumal*. (1Hr)
5. Conducting classes to UG students. (1Hr)

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 10.5 : Assessment of *Eraippu Noi*

Total duration of the activity is 3 Hrs.

1. Perform clinical examination for *Eraippu noi* in 5 OPD/IPD patients, advice dietary regulation, life style modification. (1Hr).
2. Discussions on the choice of drug. (1Hr)
3. Review of Journals (1Hr)

or

4. Conducting seminar to UG Students. (1Hr)

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 10.6 : Assessment of *Elaippu Noi*

Total duration of the activity is 6 Hrs.

1. To perform the clinical examination of *Elaipu Noi* in 5 OPD/ IPD patients with lab report interpretations. (2 Hrs)

2. Group discussion - To design the treatment plan. (1Hr)
3. Review of Journals and research papers and Journal writing. (1Hr)
4. Field visit to PHC/GH to involve in National Health Programmes. (2Hrs)

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 10.7 : Assessment of *Ulaimanthai*

Total duration of the activity is 2 Hrs.

1. Simulation- on mannequin to interpret clinical examination (1 Hr)
2. Making Posters.-Using flow charts and images.(30 Minutes)
3. Group discussion.(30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty

Modular Assessment

Assessment method

Hour

Conduct a structured Modular assessment. Assessment will be for 50 marks. Keep structured marking pattern. Use different assessment methods in each module for the semester. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table 6 C.

4

Case Based Assessment-50 marks

1. Design of the Cases

- Authenticity: Cases should reflect real clinical situations and be relevant to the student's level of training.
- Diversity: Include a variety of cases **covering *Raktha Pitham* and *Respiratory system diseases related to *Azhal* and *Iyam****

Assess the ability to interpret clinical data, prioritize differential diagnosis, and propose management plans.

Case History & Patient Data Collection ----10 Marks

- History-taking (chief complaint, history of present illness, past medical history)
- Proper documentation of patient demographics
- Identification of relevant risk factors

2. Clinical Examination -----10 Marks

- Systematic approach to physical examination

- Identification of key clinical signs
 - Correlation with patient history
3. Differential Diagnosis & Justification -----**10 Marks**
- Listing possible differential diagnosis
 - Justification based on clinical findings
 - Prioritization of most likely conditions
4. Investigations & Interpretation ----**10 Marks**
- Selection of appropriate laboratory and imaging tests
 - Justification for ordering tests
 - Interpretation of results in relation to the case
5. Management Plan & Treatment -----**5 Marks**
- Evidence-based treatment strategy
 - Medication selection with appropriate dosing
 - Consideration of non-pharmacological approaches
6. Communication & Ethical Considerations ----**5 Marks**
- Patient-centered approach
 - Ethical and legal considerations
 - Effective communication with patients and healthcare teams

or

Any practical in converted form can be taken for assessment. (25 Marks) - 2 hours

and

Any of the experiential as portfolio/ reflections / presentations can be taken as assessment. (25 Marks) - 2 hours

Semester No : 4

Module 11 : Azhal Noigal – 42 ,Haematology and Hepato biliary system diseases related to Azhal

Module Learning Objectives

(At the end of the module, the students should be able to)

Describe the *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis), *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features), *Theerum & Theera Nilai* (Curable & Incurable states) of *Azhal noi 42*, *Pandu*, *Kamalai*, *Peruvaiyuru*, *Manneeral* , *Kalleral*

noi and *kudiveri noi*.

Conduct a clinical examination for *Azhal noi 42*, *Pandu*, *Kamalai*, *Peruvaiyuru*, *Manneeral noi*, *Kalleral noi* and *kudiveri noi* in a patient to assess the *Mukkutra Verupadu* by *Envagai Thervu* and other Siddha diagnostic tools, Perform *Noikanippu vivatham* (Differential diagnosis) to arrive the diagnosis.

Identify and document the clinical condition of the patient by performing clinical examination for *Azhal noi 42*, *Pandu*, *Kamalai*, *Peruvaiyuru*, *Manneeral*, *Kalleral noi* and *Kudiveri noi*, customize the *Maruthuva Vazhi muraigal* (Treatment protocol) and suggest *Pathiyam* and *Unavu murai* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis and National Health programmes) and analyze the available research papers.

M 11 Unit 1 Types of Azhalnoigal-42 (Pitha diseases)

11.1.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 11.1.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 11.1.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 11.1.4 *Mukkutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools) 11.1.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal* (Treatment protocol) 11.1.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 11.1.7 Modern diagnostic tools 11.1.8 Recent advances through research papers of *Azhalnoigal-42*

References: 1,4,5,7,60,71,91

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Discuss the causes, pathogenesis, premonitory symptoms, clinical features of 42 types of <i>Azhal noigal</i> and seasons of <i>Azhal kutram</i> aggravation.	7	Lecture	CAN	Knows-how	L&GD,L
CO1,CO2,CO3	Demonstrate the siddha clinical examination for the 42 types of <i>Azhal noigal</i> .	8	Practical Training 11.1	PSY-GUD	Shows-how	PAL,CD,DIS,CBL,D-BED
CO1,CO2,CO3,CO4,CO5,CO6	Design a comparative study of 42 types of <i>Azhalnoigal</i> according to <i>Yugimuni</i> and other sages.	8	Experiential-Learning 11.1	PSY-MEC	Does	TPW,PL,CBL,W

M 11 Unit 2 Veluppu Noi (Anaemia)

11.2.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 11.2.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 11.2.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 11.2.4 *Mukkutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools) 11.2.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol) 11.2.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 11.2.7 Modern diagnostic tools 11.2.8 Recent advances through research papers of *Veluppu Noi* 11.2.9 AYUSH campaigns and National health programmes related to the disease if applicable.

References: 1,4,5,7,61,69,83,85,91

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Describe <i>Veluppu</i> and discuss its synonyms, etiopathogenesis, premonitory symptoms, clinical features, types, curable, incurable states and treatment regimen.	1	Lecture	CAP	Knows-how	L,L&PPT
CO1,CO2,CO3	Demonstrate the clinical features, types, curable & incurable states and <i>mukkutra verupadu</i> of <i>Veluppu</i> , perform the siddha clinical examinations through <i>envagai thervu</i> and other siddha diagnostic tools to justify the diagnosis by discriminating with differential diagnosis.	4	Practical Training 11.2	PSY-GUD	Shows-how	DIS,LRI, CD,D-BED,CBL
CO1,CO2,CO3,CO4,CO5,CO6	Identify the clinical conditions of <i>Veluppu</i> and design a proper treatment protocol by analysing deranged humors and modern diagnostic tools and advice proper diet regulation, life style modification and also integrate the knowledge about prophylaxis, recent advances through research papers and search for any AYUSH Campaign, National Health Programmes and Plan for further research scope by applying the knowledge gained from various classical siddha literatures and Journals.	7	Experiential-Learning 11.2	PSY-MEC	Does	LS,DIS,ML,CBL,T PW

M 11 Unit 3 Manjal Noi (Jaundice)

11.3.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 11.3.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 11.3.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 11.3.4 *Mukkutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools) 11.3.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol) 11.3.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 11.3.7 Modern diagnostic tools 11.3.8 Recent advances through research papers of *Manjal Noi*

11.3.9 AYUSH campaigns and National health programmes related to the disease if applicable.

References: 1,4,5,7,61,69,83,85,91

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Describe <i>Manjal Noi</i> and discuss its synonyms, etiopathogenesis, premonitory symptoms, clinical features, types, curable, incurable states and treatment regimen.	2	Lecture	CAP	Knows-how	L,L&PPT
CO1,CO2,CO3	Demonstrate the clinical features, types, curable & incurable states and mukutra verupadu of <i>Manjal Noi</i> , perform the Siddha clinical examinations through <i>envagai thervu</i> and other diagnostic tools to justify the diagnosis by discriminating with differential diagnosis.	5	Practical Training 11.3	PSY-GUD	Shows-how	D-BED,LRI,CD
CO1,CO2,CO3,CO4,CO5,CO6	Identify and document the clinical conditions of <i>Kamalai</i> and design a proper treatment protocol by analysing deranged humors, modern diagnostic tools and advice proper diet regulation, life style modification and also integrate the knowledge about prophylaxis, recent advances through research papers, plan for further research scope by applying the knowledge gained from various classical siddha literatures and Journals.	7	Experiential-Learning 11.3	PSY-MEC	Does	ML,TUT,D-BED,CBL,LRI

M 11 Unit 4 Peruvayiru (Ascites)

11.4.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 11.4.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 11.4.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 11.4.4 *Mukutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools) 11.4.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal* (Treatment protocol) 11.4.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 11.4.7 Modern diagnostic tools 11.4.8 Recent advances through research papers of *Peruvayiru*.

References: 1,4,5,7,69,83,85,91

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Define <i>Peruvayiru</i> (Ascites) and discuss its synonyms, etiopathogenesis, premonitory symptoms, clinical features, types, curable, incurable states and treatment regimen.	2	Lecture	CC	Knows-how	L&GD

CO1,CO2,CO3	Demonstrate the clinical features, types, curable & incurable states, <i>mukkutra verupadu</i> of <i>Peruvayiru</i> , perform the siddha clinical examinations through <i>envagai thervu</i> and other diagnostic tools to justify the diagnosis by discriminating with differential diagnosis in OPD/IPD Patients and prescribe the line of treatment based on affected body humor and <i>suvai</i> .	5	Practical Training 11.4	PSY-GUD	Shows-how	CD,D-BE D,CBL,PAL
CO1,CO2,CO3 ,CO4,CO5,CO6	Identify and document the clinical conditions of <i>Peruvayiru</i> and design a proper treatment protocol by analysing deranged humors, modern diagnostic tools and advice proper diet regulation, life style modification, recent advances through research papers and plan for further research scope by applying the knowledge gained from various classical siddha literatures and Journals.	7	Experiential-Learning 11.4	PSY-MEC	Does	CBL,EDU,TUT,DIS,LRI

M 11 Unit 5 Manneeral noi and Kalleeral noi (Spleen and Liver disorders)

11.5.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 11.5.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 11.5.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 11.5.4 *Mukkutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools) 11.5.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol) 11.5.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 11.5.7 Modern diagnostic tools 11.5.8 Recent advances through research papers of Manneeral and Kalleeral noi.

References: 1,2,5,7,74,83,85,91

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Define <i>Manneeral noi</i> and <i>Kalleeral noi</i> (Diseases of Liver and Spleen) and discuss its synonyms, etiopathogenesis, premonitory symptoms, clinical features, types, curable, incurable states and treatment regimen.	2	Lecture	CAP	Knows-how	L,L&PPT
CO1,CO2,CO3	Demonstrate the clinical features, types, curable & incurable states, <i>mukkutra verupadu</i> of <i>Manneeral noi</i> and <i>Kalleeral noi</i> , perform the siddha clinical examinations through <i>envagai thervu</i> and other diagnostic tools to justify the diagnosis by discriminating with differential diagnosis in OPD/IPD Patients and prescribe the line of	5	Practical Training 11.5	PSY-GUD	Shows-how	CBL,LRI,DIS,D-BED

	treatment based on affected body humor and <i>suva</i> .					
CO1,CO2,CO3,CO4,CO5	Identify and document the clinical conditions of <i>Manneeral noi</i> and <i>Kalleeral Noi</i> and design a proper treatment protocol by analysing deranged humors, modern diagnostic tools and advice proper diet regulation, life style modification, recent advances through research papers plan for further research scope by applying the knowledge gained from various classical siddha literatures and Journals.	8	Experiential-Learning 11.5	PSY-MEC	Does	CBL,LS, Mnt,CD,LRI

M 11 Unit 6 Kudiveri Noi (Alcoholism)

11.6.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 11.6.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 11.6.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 11.6.4 *Mukkuutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools), *Noikanippu vivatham* (Differential diagnosis) 11.6.5 *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal* (Treatment protocol) 11.6.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 11.6.7 Modern diagnostic tools 11.6.8 Recent advances through research papers of *Kudiveri Noi* 11.6.9 AYUSH campaigns and National health programmes related to the disease if applicable.

References: 1,4,5,7,83,85,91

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Define <i>Kudiveri Noi</i> (Alcoholism) and discuss its synonyms, etiopathogenesis, premonitory symptoms and clinical features.	1	Lecture	CC	Knows-how	EDU,L&PPT ,L
CO1,CO2,CO3	Demonstrate the clinical features, types, curable & incurable states, <i>mukkuutra verupadu</i> of <i>Kudiveri Noi</i> , perform the Siddha clinical examinations through <i>envagai thervu</i> and other diagnostic tools to justify the diagnosis by discriminating with differential diagnosis.	3	Practical Training 11.6	PSY-GUD	Shows-how	DIS,LRI, CBL,D-BED,CD
CO1,CO2,CO3,CO4,CO5,CO6	Identify the clinical conditions of <i>Kudiveri Noi</i> and design a proper treatment protocol by analysing deranged humors, modern diagnostic tools and advice proper diet regulation, life style modification and updated the recent advances through research papers	2	Experiential-Learning 11.6	AFT-VAL	Does	PSM,FV, C_L

Practical Training Activity

Practical Training 11.1 : Demonstrate the siddha clinical examination for the 42 types of *Azhal noigal*.

Total duration of the activity is 8 Hrs.

I. Teacher demonstration of clinical examination for 42 types of *Azhal noigal* (2 Hrs)

II. Clinical examination by student in the presence of teacher (4 Hrs)

1. Prepare the patient for clinical examination
2. Introduce yourself and take consent from the patient explaining the procedure.
3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.
4. Perform the Siddha examination for *Envagai thervu*, 7 *Udal thaathukkal*, *Kanma Indriyam*, *Gnana Indriyam*, *Yaakkai ilakkanam*, derangements of humors in the presence of faculty
5. Arrive at a proper diagnosis of the type of Azhal Noi based on differential diagnosis, other examinations, clinical features and other parameters.
6. Formulate a personalized line of treatment based on altered humors and advise appropriate internal and external medicine, diet regulation.

III. Discussion and Assessment by teacher (2 Hrs)

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 11.2 : Clinical examination of *Veluppu*

Total duration of the activity is 4 Hrs.

I. Teacher demonstrates the clinical examination of *Veluppu* (1 Hr)

II. Clinical examination by student in the presence of teacher (2 Hr)

1. Prepare the patient for clinical examination
2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.
3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.
4. Perform the Siddha examination for *Envagai thervu*, 7 *Udal thaathukkal*, *Kanma Indriyam*, *Gnana Indriyam*, *Yaakkai ilakkanam*, derangements of humors under the supervision of facilitator

5. Perform CBC, Blood smear, Haematocrit, bone marrow aspirate, biopsy, Imaging Techniques and other necessary lab investigations
6. Arrive at a proper diagnosis based on differential diagnosis, other examinations, clinical features and other parameters.
7. Formulate a personalized line of treatment based on altered humors then advise appropriate internal medicine and advise diet regulation, life style modification.

III. Discussion and Assessment by teacher (1 Hr)

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 11.3 : Clinical examination of Manjal Noi

Total duration of the activity is 5 Hrs.

I. Teacher demonstrates the clinical examination of Manjal Noi. (2 Hr)

II. Clinical examination by student in the presence of teacher. (2 Hr)

1. Prepare the patient for clinical examination
2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.
3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.
4. Perform the Siddha examination for Envagai thervu, 7 Udal thaathukkal, Kanma Indriyam, Gnana Indriyam, Yaakkai ilakkanam, derangements of humors in the presence of tutor
5. Assess the Abdomen by performing the inspection, palpation, percussion, LFT, CBC, Antibody studies, Imaging techniques.
6. Arrive at a proper diagnosis based on differential diagnosis, other examinations, clinical features and other parameters.
7. Formulate a personalized line of treatment based on altered humors and advise appropriate internal medicine then advise diet regulation and life style modification.

III. Discussion and Assessment by teacher (1 Hr)

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 11.4 : Clinical examination of *Peruvayiru*

Total duration of the activity is 5 Hrs.

I. Teacher demonstrates the clinical examination of *Peruvayiru* (1 Hr)

II. Clinical examination by student in the presence of teacher (2 Hr)

1. Prepare the patient for clinical examination
2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.
3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.
4. Perform the Siddha examination for *Envagai thervu*, *7 Udal thaathukkal*, *Kanma Indriyam*, *Gnana Indriyam*, *Yaakkai ilakkanam*, derangements of humors with the guidance of teacher
5. Assess the abdomen by performing the inspection, palpation, percussion, LFT, serum proteins, SAAG, Imaging techniques, biopsy
6. Arrive at a proper diagnosis based on differential diagnosis, other examinations, clinical features and other parameters.
7. Formulate a personalized line of treatment based on altered humors and advise appropriate internal and external medicine and Special medicine mentioned in *Therayar yamaga venba*, advise diet regulation and life style modification.

III. Discussion and Assessment by teacher (1 Hr)

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 11.5 : Clinical examination of *Maneeral Noi* and *Kalleeral Noi*

Total duration of the activity is 5 Hrs.

I. Teacher demonstrates the clinical examination of *Maneeral* and *Kalleeral Noi* (2 Hrs)

II. Clinical examination by student in the presence of teacher (2 Hrs)

1. Prepare the patient for clinical examination
2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.
3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.
4. Perform the Siddha examination for *Envagai thervu*, *7 Udal thaathukkal*, *Kanma Indriyam*, *Gnana Indriyam*, *Yaakkai ilakkanam*, derangements of humors under the supervision of facilitator
5. Perform the abdominal examination, LFT, liver enzyme testing, platelet count, immuno globulin levels, imaging techniques, biopsy and other modern diagnostic tools and lab diagnosis.
6. Arrive at a proper diagnosis based on differential diagnosis, other examinations, clinical features and other parameters.
7. Formulate a personalized line of treatment based on altered humors and advise oil bath, purgation, and appropriate internal and external medicine and advise diet regulation and life style modification.

III. Discussion and Assessment by teacher (1 Hr)

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 11.6 : Clinical examination of *Kudiveri Noi*

Total duration of the activity is 3 Hrs.

I. Teacher demonstration of clinical examination (1 Hr)

II. Clinical examination by student in presence of teacher (1 Hr)

1. Prepare the patient for clinical examination
2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.
3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.
4. Perform the Siddha examination for *Envagai thervu*, *7 Udal thaathukkal*, *Kanma Indriyam*, *Gnana Indriyam*, *Yaakkai ilakkanam*, derangements of humors in the presence of tutor
5. Perform tests to assess blood alcohol level, haematocrit, ethanol bio markers, Mg level, 5-Hydroxy Tryptophol, urine test
6. Perform the nuerological examination
7. Arrive at a proper diagnosis based on history, other examinations, clinical features and other parameters.
8. Formulate a personalized line of treatment based on altered humors select appropriate internal and external medicine, counselling, De-addiction and advice diet regulation, explain the life style modification.

III. Discussion and Assessment by teacher (1 Hr)

At the end of the activity, students should submit a report to the concerned faculty.

Experiential learning Activity

Experiential-Learning 11.1 : Design a comparative study of 42 types of *Azhal noigal* according to *Yugimuni* and other sages

Total duration of the activity is 8 Hrs.

1. Case study session on “Types of *Azhal Noigal* according to *Yugimuni* and other sages (4 Hrs)

2. Writing article on 42 Types of *Azhal* diseases and its treatment (2 Hrs)
3. Debate on the classification of *Azhal* diseases by various siddhars (2 Hrs)

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 11.2 : Assessment of *Veluppu*

Total duration of the activity is 7 Hrs.

1. Perform clinical examination in 5 OPD/IPD patients, advice dietary regulation, life style modifications. (2 Hrs)
2. Poster presentation on Types of *Veluppu noi* and its treatment. (1Hr)
3. Group discussion Library session. (1Hr)
4. Review of journals and research papers. (1Hr)
5. Lab report interpretation. (1Hr)
6. Screening of Anaemia in school health Programme. (1Hr)

At the end of the activity, students should submit a report to the concerned faculty

Experiential-Learning 11.3 : Assessment of Manjal Noi (Jaundice)

Total duration of the activity is 7 Hrs.

1. Perform clinical examination in 5 OPD/IPD patients, advice dietary regulation, life style modification. (2Hr)
2. Interactive session on Types of Kamalai and relating it to Jaundice in Modern aspect. (1Hr)
3. Seminars to UG students. (1Hr)
4. Group discussion. (1Hr)
5. Review of recent advances in kamalai. (1Hr)
6. Lab report interpretation. (1Hr)

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 11.4 : Assessment of *Peruvayiru*

Total duration of the activity is 7 Hrs.

1. Scenario based assessment – Examination of *Peruvayiru* creating a scenario. (2 Hrs)
2. Clinical video Cases. (1Hr)
3. Group discussion. (1Hr)
4. Lab report interpretation. (1 Hr)
5. Conducting seminar to UG students. (1Hr)
6. Field visit to deaddiction centers or GH visit to observe cirrhosis of liver. (1Hr)

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 11.5 : Assessment of *Manneeral Noi* and *Kalleeral Noi*

Total duration of the activity is 8 Hrs.

1. Practical session on examination of Liver and Spleen diseases. (2 Hrs)
2. Drug Exploration. (1 Hr)
3. Group discussion on the causes of Hepatomegaly and Splenomegaly. (1 Hr)
4. Conducting clinical case presentation to UG students. (1 Hr)
5. Lab report interpretation. (1 Hr)
6. Library session to exploration of the disease. (1 Hr)
7. Symposium on *Kalleeral Noi* and *Manneeral noi*. (1 Hr)

At the end of the activity, students should submit a report to the concerned faculty

Experiential-Learning 11.6 : Assessment of *Kudiveri Noi*

Total duration of the activity is 2 Hrs.

1. Video demonstration on De-addiction using traditional herbs. (1 Hr)
2. Field visit to deaddiction center. (1 Hr)

At the end of the activity, students should submit a report to the concerned faculty

Modular Assessment**Assessment method****Hour**

Conduct a structured Modular assessment. Assessment will be for 75 marks. Keep structured marking pattern. Use different assessment methods in each module for the semester. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table 6 C.

6

OSCE (Objective Structured Clinical Examination) Assessment- 75 Marks**1. History Taking ---10 Marks**

- Introduction and rapport building
- Identifying key clinical information

2. Physical Examination -----20 Marks

- Proper technique and systematic approach
- Identification of abnormal findings in *uyir* and *udal Thathukkal*

3. Clinical Reasoning & Diagnosis ---20 Marks

- Formulation of differential diagnosis
- Justification based on history and examination of *envagai thervu*
- Selection of the most likely diagnosis

4. Investigations & Interpretation ----10 Marks

- Choosing appropriate lab tests and imaging
- Interpretation of findings in the clinical context

5. Management Plan -----10 Marks

- Evidence-based treatment strategy including *arusuvai* and *veeriyam* of medicine
- Follow-up and patient education

6. Communication & Professionalism ----5 Marks

- Clear and empathetic communication
- Explanation of diagnosis and treatment to the patient
- Ethical considerations and patient confidentiality

or

Any practical in converted form can be taken for assessment. (25 Marks) - 2 hours

and

Any of the experiential as portfolio/ reflections / presentations can be taken as assessment. (50Marks) - 4 hours

General Feedback:

- Summarize trends or common errors observed during the exam.
- Offer guidance for improvement and further learning.
- Recommend additional training or practice for students who did not meet the required standard.

Module 12 : Iya Noigal related to Haematology, Vikkal and Naalamilla surapi noigal (Endocrine diseases)

Module Learning Objectives

(At the end of the module, the students should be able to)

Describe the *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis), *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features), *Theerum & Theera Nilai* (Curable & Incurable states) of *Vikkal*, *Sobai* and the principles of Hypo-thyroidism, Hyper thyroidism, Obesity and Adrenal disorders.

Conduct a clinical examination for *Vikkal*, *Sobai*, Hypo-thyroidism, Hyper thyroidism, Obesity and Adrenal disorders in a patient to assess the *Mukkuutra Verupadu* by *Envagai Thervu* and other Siddha diagnostic tools, Perform *Noikanippu vivatham* (Differential diagnosis) to arrive the diagnosis.

Identify the clinical condition of the patient by performing clinical examination for *Vikkal*, *Sobai*, Hypo-thyroidism, Hyper thyroidism, Obesity and Adrenal disorders, customize the *Maruthuva Vazhi muraigal* (Treatment protocol) and suggest *Pathiyam* and *Unavu murai* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis and National Health programmes) and analyze the available research papers.

M 12 Unit 1 Vikkal (Hiccup)

12.1.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 12.1.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 12.1.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 12.1.4 *Mukkuutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools) 12.1.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol) 12.1.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 12.1.7 Modern diagnostic tools 12.1.8 Recent advances through research papers of *Vikkal*.

References: 1,4,5,7,77,83,85,91

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Describe <i>Vikkal</i> (Hiccough) and discuss its synonyms, etiopathogenesis, premonitory symptoms, clinical features, types, curable, incurable states and treatment regimen.	1	Lecture	CC	Knows-how	L&PPT ,L
CO1,CO2,CO3	Demonstrate the clinical features, types, curable & incurable states, <i>mukkuutra verupadu</i> of <i>Vikkal</i> ,perform the siddha clinical examinations through <i>envagai thervu</i> and other diagnostic tools to justify the diagnosis by discriminating with differential diagnosis.	2	Practical Training 12.1	PSY-GUD	Shows-how	DIS,PAL, CD,LRI, D-BED
CO1,CO2,CO3 ,CO4,CO5,CO 6	Identify and document the clinical conditions of <i>Vikkal</i> and design a proper treatment protocol by analysing deranged humors, modern diagnostic tools and advice proper diet regulation, life style modification and also develop the current knowledge through research papers.	3	Experiential-Learning 12.1	PSY-MEC	Does	SDL,DIS, CBL,PL

M 12 Unit 2 Sobai (Dropsy)

12.2.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 12.2.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 12.2.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 12.2.4 *Mukkuutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools) 12.2.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol). 12.2 6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 12.2.7 Modern diagnostic tools 12.2.8 Recent advances through research papers of *Sobai* 12.2.9 AYUSH campaigns and National health programmes related to the disease if applicable.

References: 1,4,5,7,69,77,83,85,91

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Define <i>Sobai</i> and discuss its synonyms, etiopathogenesis, premonitory symptoms, clinical features, types, curable, incurable states and treatment regimen.	1	Lecture	CAP	Knows-how	L,L&PPT
CO1,CO2,CO3	Demonstrate the clinical features, types, curable & incurable states, <i>mukkuutra verupadu</i> of <i>Sobai</i> , perform the siddha clinical examinations through <i>envagai thervu</i> and other diagnostic tools to justify the diagnosis by discriminating with differential diagnosis in OPD/IPD Patients and prescribe the line of treatment based on affected body humor and <i>suvai</i> .	2	Practical Training 12.2	PSY-GUD	Shows-how	CBL,CD, D-BED,L RI,DIS
CO1,CO2,CO3,CO4,CO5,CO6	Identify the clinical conditions of <i>Sobai</i> and design a proper treatment protocol by analysing deranged humors , modern diagnostic tools and advice proper diet regulation, life style modification and also integrate the knowledge in recent advances through research papers, plan for further research scope by applying the knowledge gained from various classical siddha literatures and Journals.	3	Experiential-Learning 12.2	PSY-MEC	Does	PBL,Mnt, ML

M 12 Unit 3 Kurai veethanam and athi veethana noigal (Hypothyroidism and Hyperthyroidism)

12.3.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 12.3.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 12.3.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 12.3.4 *Mukkuutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools) 12.3.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol) 12.3.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 12.3.7 Modern diagnostic tools 12.3.8 Recent advances through research papers of Hypo and Hyper Thyroidism 12.3.9 AYUSH campaigns and National health programmes related to the disease if applicable.

References: 81,82,83,84,85,90

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Demonstrate the causes, pathogenesis, clinical features, risk factors and complication of Hypo and Hyper Thyroidism.	2	Lecture	CC	Knows-how	L,L_VC, BL
CO1,CO2,CO3	Perform the siddha clinical examination and modern examination and lab diagnosis for	4	Practical	PSY-	Shows-	C_L,LRI,

	hypo and hyper thyroidism		Training 12.3	GUD	how	CD,DIS,CBL
CO1,CO2,CO3,CO4,CO5,CO6	Build the siddha management protocol, diet regulation, life style modification and develop the knowledge about recent advances through research papers and search for any AYUSH Campaign, National Health Programme for Hypo and hyper thyroidism	4	Experiential-Learning 12.3	PSY-MEC	Does	LS,PBL,CBL,TUT,LRI

M 12 Unit 4 Obesity and Adrenal Diseases

12.4.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 12.4.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 12.4.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 12.4.4 *Mukkutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools) 12.4.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol) 12.4.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 12.4.7 Modern diagnostic tools 12.4.8 Recent advances through research papers of Obesity and Adrenal Disease 12.4.9 AYUSH campaigns and National health programmes related to the disease if applicable.

References: 81,82,83,84,85,90

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Discuss the causes, pathogenesis, clinical features, risk factor and complications of Obesity and Adrenal disorder	1	Lecture	CC	Knows-how	L&PPT,L
CO1,CO2,CO3,CO4,CO5,CO6	Conduct siddha and modern clinical examinations for Obesity and Adrenal Disorder and perform its lab diagnosis	2	Practical Training 12.4	PSY-MEC	Shows-how	DIS,CBL,LRI,CD,D-BED
CO1,CO2,CO3,CO4,CO5,CO6	Asses the deranged elements for Obesity and adrenal diseases and design siddha management protocol, diet regulation, life style modification and develop the knowledge about recent advances through research papers and search for any AYUSH Campaign, National Health Programme	3	Experiential-Learning 12.4	AFT-VAL	Does	JC,CBL,LRI,LS

Practical Training Activity					
Practical Training 12.1 : Clinical examination of <i>Vikkal</i>					
Total duration of the activity is 2 Hrs. I. Teacher demonstrates the clinical examination of <i>Vikkal</i> . (30 Minutes) II. Clinical examination by student in the presence of teacher (1 Hr) 1. Prepare the patient for clinical examination 2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure. 3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals. 4. Perform the Siddha examination for <i>Envagai thervu</i>, <i>7 Udal thaathukkal</i>, <i>Kanma Indriyam</i>, <i>Gnana Indriyam</i>, <i>Yaakkai ilakkanam</i>, derangements of humors under the teacher's direction 5. Do the necessary Lab diagnosis.(CBC,Urea, electrolytes,RFT, LFT, serum amylase and lipase level) 6. Do CXR, ECG, imaging techniques 7. Arrive at a proper diagnosis based on differential diagnosis, other examinations, clinical features and other parameters. 8. Formulate a personalized line of treatment based on altered humors and advise nasal plug and appropriate internal medicine and advise diet regulation, life style modification. III. Discussion and Assessment by teacher. (30 Minutes) At the end of the activity, students should submit a report to the concerned faculty.					
Practical Training 12.2 : Clinical features of <i>Sobai</i> .					
Total duration of the activity is 2 Hrs. I. Teacher demonstration of clinical examination . (30 Minutes) II. Clinical examination by student (1 Hr) 1. Prepare the patient for clinical examination 2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.					

3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.
4. Perform the Siddha examination for *Envagai thervu*, *7 Udal thaathukkal*, *Kanma Indriyam*, *Gnana Indriyam*, *Yaakkai ilakkanam*, derangements of humors under the instructor's direction.
5. Assess the affected system by performing the clinical examination.
6. Do blood test and screening technique to check liver, heart, kidney function
7. Perform CT or MRI whichever necessary
8. Arrive at a proper diagnosis based on differential diagnosis, other examinations, clinical features and other parameters.
9. Formulate a personalized line of treatment based on altered humors and advise diuretics and appropriate internal and external medicine, advise diet regulation and life style modification.

III. Discussion and Assessment by teacher. (30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 12.3 : Clinical features of Hypo and Hyper Thyroidism.

Total duration of the activity is 4 Hrs.

I. Teacher demonstrates the clinical examination of Thyroid (1 Hr)

II. Clinical examination by student in the presence of teacher (2 Hrs)

1. Prepare the patient for clinical examination
2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.
3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.
4. Perform the Siddha examination for *Envagai thervu*, *7 Udal thaathukkal*, *Kanma Indriyam*, *Gnana Indriyam*, *Yaakkai ilakkanam*, derangements of humors in presence of faculty
5. Conduct general examination, Thyroid gland examination, examination of eyes and other relevant examinations and lab diagnosis-including, TFT, antibody test, thyroid biopsy and thyroid scan
6. Arrive at a proper diagnosis based on differential diagnosis and clinical features.
7. Formulate a personalized line of treatment based on altered humors, advise appropriate internal medicine and advise diet regulation and life style modification.

III. Discussion and Assessment by teacher (1 Hr)

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 12.4 : Clinical examination of Obesity and Adrenal disease.

Total duration of the activity is 2 Hrs.

I. Teacher demonstration of clinical examination. (30 Minutes)

II. Clinical examination by student in the presence of teacher (1 Hr)

1. Prepare the patient for clinical examination
2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.
3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.
4. Perform the Siddha examination for *Envagai thervu*, *7 Udal thaathukkal*, *Kanma Indriyam*, *Gnana Indriyam*, *Yaakkai ilakkanam*, derangements of humors with the instructor's help
5. Assess the BMI for obesity
6. Assess cortisol, aldosterone, ACTH and catecholamine level for adrenal disorders
7. Perform imaging techniques if needed
8. Arrive at a proper diagnosis based on differential diagnosis and clinical features.
9. Formulate a personalized line of treatment based on altered humor, advise appropriate internal and external medicine and advise diet regulation, life style modification.

III. Discussion and Assessment by teacher . (30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty

Experiential learning Activity

Experiential-Learning 12.1 : Assessment of Vikkal

Total duration of the activity is 3 Hrs.

1. Conduct clinical examination on 5 OPD/IPD patients, advice diet regulation and lifestyle modifications. (1 Hr)
2. Group Discussion on Causes. (30 Minutes)
3. Identify and stimulation of Varma points.. (30 Minutes)

4. Self-directed Learning.(30 Minutes)

5. Journal review. . (30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 12.2 : Assessment of *Sobai*.

Total duration of the activity is 3 Hrs.

1. Perform clinical evaluations on patients with OPD or IPD (1 Hr)
2. Problem based learning to assess the causes of *sobai*. (30 Minutes)
3. Digital presentation on navigating *Sobai*. (30 Minutes)
4. Conducting classes to UG students. (30 Minutes)
5. Library session and present the report. . (30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty

Experiential-Learning 12.3 : Assessment of Hypo and Hyper Thyroidism.

Total duration of the activity is 4 Hrs.

1. Problem based learning -To perform the clinical examination for hypo and hyper thyroidism. (1 Hr)
2. Conducting seminar to UG students. (1 Hr)
3. Divide the students in to groups and conduct quiz. (1 Hr)
4. Review of research articles. (1 Hr)

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 12.4 : Assessment of Obesity and Adrenal disease

Total duration of the activity is 3 Hrs.

1. Case study and presentation to assess Obesity and adrenal disorders. (1 Hr)
2. Lab report interpretation (1 Hr)
3. Reviewing of research papers (1 Hr)

At the end of the activity, students should submit a report to the concerned faculty

Modular Assessment

Assessment method

Hour

Conduct a structured Modular assessment. Assessment will be for 25 marks. Keep structured marking pattern. Use different assessment methods in each module for the semester. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table 6 C.

2

Case Based Assessment-25 marks

1. Design of the Cases
 - Authenticity: Cases should reflect real clinical situations and be relevant to the student's level of training.
 - Diversity: Include a variety of cases **covering Vikkal , Iya Noigal related to Haematology and Endocrine diseases**
2. Assess the ability to interpret clinical data, prioritize differential diagnosis, and propose management plans.
 1. Patient History & Data Collection ---5 Marks
 - History (chief complaint, history of present illness, past medical history, family history, etc.)
 - Logical and systematic approach
 2. Clinical Examination ---5 Marks
 - Systematic physical examination techniques including *envagai thervu*
 - Identification of key clinical signs
 - Correlation with patient history
 3. Differential Diagnosis & Clinical Reasoning ----5 marks
 - Listing possible differential diagnosis
 - Logical justification for prioritizing diagnosis
 - Integration of clinical data for decision-making
 4. Investigations & Interpretation ----5 Marks

- Selection of appropriate tests (laboratory, imaging, etc.)
- Interpretation of test results
- Relevance of findings to the diagnosis

5. Management & Treatment Plan ---5 Marks

- Development of an evidence-based treatment plan consider with *arusuvaigal*
- Selection of appropriate medications ,*anubanam*, *pathiyam* and dosages
- Consideration of *sirappu maruthuva* treatment

or

Any practical in converted form can be taken for assessment. (10 Marks) - 1 hour

and

Any of the experiential as portfolio/ reflections / presentations can be taken as assessment. (15 Marks) - 1 hour

Semester No : 5

Module 13 : Renal disorders related to Azhal , Newly emerging viral infections and infectious diseases

Module Learning Objectives

(At the end of the module, the students should be able to)

Describe the *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis), *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features), *Theerum & Theera Nilai* (Curable & Incurable states) of *Suram 64*, *Ammalai noi*, *Kalladaipu* and *Neeradaipu*, *Vellai noi*, *Venneer*, *Sottu neer* and *Neerchurukku* and Definition, Etiopathogenesis, Premonitory symptoms, clinical features, complications of Newly emerging viral infections like Chickungunya, Dengue, Swine flu, Covid-19, Monkey pox.

Conduct a clinical examination for *Suram 64*, *Ammalai noi*, *Kalladaipu* and *Neeradaipu*, *Vellai noi*, *Venneer*, *Sottu neer*, *Neerchurukku*, Chickungunya, Dengue, Swine flu, Covid-19 and Monkey pox in a patient to assess the *Mukkuutra Verupadu* by *Envagai Thervu* and other Siddha diagnostic tools, Perform *Noikanippu vivatham* (Differential diagnosis) to arrive the diagnosis.

Identify the clinical condition of the patient by performing clinical examination for *Suram 64*, *Ammalai noi*, *Kalladaipu* and *neeradaipu*, *Vellai noi*, *Venneer*, *Sottu neer*, *Neerchurukku*, Chickungunya, Dengue, Swine flu, Covid-19 and Monkey pox. Customize the *Maruthuva Vazhi muraigal* (Treatment protocol) and suggest *Pathiyam* and *Unavu murai* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis and National Health programmes) and analyze the available research papers.

M 13 Unit 1 Chickungunya, Dengue, Swine flu, Covid-19 and Monkey pox

13.1.1 Definition, pathogenesis, risk factors 13.1.2 Clinical features, complications 13.1.3 Lab investigations and management through AYUSH-Siddha system of Medicine 13.1.4 Study of clinical research papers of Chickungunya, Dengue, Swine flu, Covid-19 and Monkey pox.

References: 81,82,83,84,85,87,88,89,90

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Describe the causes, pathogenesis and clinical features, risk factor and complications of Chickungunya, Dengue, Swine Flu, Covid-19, Monkey pox	2	Lecture	CAP	Knows-how	L,L&PPT
CO1,CO3	Perform the siddha and modern clinical examinations and conduct lab diagnosis for Chickungunya, Dengue, Swine flu, Covid-19 and Monkey pox	4	Practical Training 13.1	CAP	Shows-how	D,PrBL,D IS,TBL,L RI
CO1,CO2,CO3 ,CO4,CO5,CO 6	Design the siddha management protocol, diet regulation and life style modification for Chickungunya, Dengue, Swine Flu, Covid-19, Monkey pox and Develop the knowledge about recent advances through research papers and search for any AYUSH Campaign, National Health Programmes.	5	Experiential-Learning 13.1	AFT-RES	Does	JC,LS,TU T,DIS

M 13 Unit 2 Suram-64 (Fever-64)

13.2.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 13.2.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 13.2.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 13.2.4 *Mukkutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools), *Noikanippu vivatham* (Differential diagnosis) 13.2.5 *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol), *Pathiyam* and *unavu* (Diet regulation) 13.2.6 *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 13.2.7 Modern diagnostic tools 13.2.8 Recent advances through research papers of *Suram-64*

References: 1,2,4,5,7,65,68,80,91

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Describe 64-types of <i>Suram</i> and discuss the etiopathogenesis, premonitory symptoms, clinical features.and line of treatment.	2	Lecture	CC	Knows-how	L,L&GD
CO1,CO2,CO3	Demonstrate the clinical features, types, Curable & Incurable states and <i>Mukkuutra verupadu</i> of 64 types of <i>Suram</i> and perform the siddha clinical examinations through envagai thervu and other diagnostic tools to Justify the diagnosis by discriminating with differential diagnosis.	4	Practical Training 13.2	PSY-GUD	Shows-how	CD,DIS,CBL,LRI,D-BED
CO1,CO2,CO3,CO4,CO5,CO6	Identify the clinical conditions of <i>Suram-64</i> and design a proper treatment protocol by analysing deranged humors, modern diagnostic tools and advice proper diet regulation, life style modification and also integrate the knowledge about prophylaxis, recent advances through research papers and search for any AYUSH Campaign, National Health Programmes and Plan for further research scope by applying the knowledge gained from various classical siddha literatures and Journals.	5	Experiential-Learning 13.2	PSY-MEC	Does	DA,X-Ray,D-BED,DL,LRI

M 13 Unit 3 Ammai Noi (Exanthematous Viral infections)

13.3.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 13.3.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 13.3.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 13.3.4 *Mukkuutra Verupadu* and Envagai Thervu (Derangement of humors and Siddha diagnostic tools), *Noikanippu vivatham* (Differential diagnosis) 13.3.5 *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol), 13.3.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 13.3.7 Modern diagnostic tools 13.3.8 AYUSH campaigns and National health programmes related to the disease if applicable.

References: 1,4,5,7,29,91

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Describe <i>Ammai noi</i> and discuss its synonyms, etiopathogenesis, premonitory symptoms, clinical features, types, curable, incurable states and treatment regimen.	1	Lecture	CC	Knows-how	L_VC,L
CO1,CO2,CO3	Demonstrate the clinical features, types, Curable & Incurable states and <i>Mukkuutra</i>	2	Practical	PSY-	Shows-	PER,DIS,

	<i>verupadu of Ammai noi</i> , Perform the siddha clinical examinations through <i>Envagai thervu</i> and other diagnostic tools to justify the diagnosis by discriminating with differential diagnosis.		Training 13.3	GUD	how	CD
CO1,CO2,CO3,CO4,CO5,CO6	Identify the clinical conditions of <i>Ammmai noi</i> and design a proper treatment protocol by analysing deranged humors, modern diagnostic tools and advice proper diet regulation, life style modification and also integrate the knowledge about prophylaxis, recent advances through research papers and search for any AYUSH Campaign, National Health Programmes and Plan for further research scope by applying the knowledge gained from various classical siddha literatures and Journals.	3	Experiential-Learning 13.3	PSY-MEC	Does	DIS,CD

M 13 Unit 4 Kalladaipu and Neeradaipu (Renal calculi & Retention of Urine)

13.4.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 13.4.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 13.4.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 13.4.4 *Mukkutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools), *Noikanippu vivatham* (Differential diagnosis) 13.4.5 *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol) 13.4.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 13.4.7 Modern diagnostic tools 13.4.8 Recent advances through research papers of *Kalladaipu* and *Neeradaipu*

References: 4,5,7,83,85,91,92

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Describe <i>Kalladaipu</i> , <i>Neeradaipu</i> (Renal calculi and Retention of Urine) and discuss its synonyms, etiopathogenesis, premonitory symptoms, clinical features, types, curable, incurable states and treatment regimen.	2	Lecture	CC	Knows-how	L&PPT, L
CO1,CO2,CO3	Demonstrate the clinical features, types, Curable & Incurable states and <i>Mukkutra verupadu</i> of <i>Kalladaipu</i> and <i>Neeradaipu</i> , Perform the siddha clinical examinations through <i>envagai thervu</i> and other diagnostic tools ,justify the diagnosis by discriminating with differential diagnosis.	4	Practical Training 13.4	PSY-GUD	Shows-how	LRI,D-BED,CD,DIS,CBL
CO1,CO2,CO3,CO4,CO5,CO6	Identify the clinical conditions of <i>Kalladaipu</i> and <i>Neeradaipu</i> and design a proper treatment protocol by analysing deranged humors, modern diagnostic tools and advice	4	Experiential-Learning 13.	PSY-MEC	Does	D-BED,L S,TUT,DI

6	proper diet regulation, life style modification and also integrate the knowledge about prophylaxis, recent advances through research papers and Plan for further research scope by applying the knowledge gained from various classical siddha literatures and Journals.	4			S
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M 13 Unit 5 Vellai noi (Urethritis/ Inflammation of Urogenital organs))

13.5.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 13.5.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 13.5.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 13.5.4 *Mukkutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools), *Noikanippu vivatham* (Differential diagnosis) 13.5.5 *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol) 13.5.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 13.5.7 Modern diagnostic tools 13.5.8 Recent advances through research papers of *Vellai noi* 13.5.9 AYUSH campaigns and National health programmes related to the disease if applicable.

References: 1,4,5,7,91,93

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Describe <i>Vellainoi</i> (Gonorrhea, Leucorrhoea, etc.) and discuss its synonyms, etiopathogenesis, premonitory symptoms, clinical features, types, curable, incurable states and treatment regimen.	1	Lecture	CC	Knows-how	L,L&PPT
CO1,CO2,CO3	Demonstrate the clinical features, types, Curable & Incurable states and <i>Mukkutra verupadu</i> of <i>Vellai Noi</i> ,Perform the siddha clinical examinations through <i>Envagai thervu</i> and other diagnostic tools and Justify the diagnosis by discriminating with differential diagnosis.	2	Practical Training 13.5	PSY-GUD	Shows-how	CD,LRI, DIS,D-BED,CBL
CO1,CO2,CO3 ,CO4,CO5,CO6	Identify the clinical conditions of <i>Vellai noi</i> and design a proper treatment protocol by analysing deranged humors and modern diagnostic tools and advice proper diet regulation, life style modification and also integrate the knowledge about prophylaxis, recent advances through research papers and search for any AYUSH Campaign, National Health Programmes and Plan for further research scope by applying the knowledge gained from various classical siddha literatures and Journals.	3	Experiential-Learning 13.5	PSY-MEC	Does	DIS,CBL, PSM,LRI

M 13 Unit 6 Venneer and Sottu Neer (Spermatorrhoea & Incontinence of Urine)

13.6.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 13.6.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features), 13.6.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 13.6.4 *Mukkutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools), 13.6.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol), 13.6.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 13.6.7 Modern diagnostic tools 13.6.8 Recent advances through research papers of *Venneer* and *Sottu Neer* 13.6.9 AYUSH campaigns and National health programmes related to the disease if applicable.

References: 1,4,5,7,83,85,91

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Describe <i>Venneer</i> (Spermatorrhoea and Urethral discharge), <i>Sottu Neer</i> (Anuria, Incontinence of urine) and discuss its synonyms, etiopathogenesis, premonitory symptoms, clinical features, types, curable, incurable states and treatment regimen.	1	Lecture	CC	Knows-how	L,L&PPT
CO1,CO2,CO3	Demonstrate the clinical features, types, Curable & Incurable states and <i>Mukkutra verupadu</i> of <i>Venneer</i> and <i>Sottu Neer</i> , Perform the siddha clinical examinations through <i>Envagai thervu</i> and other diagnostic tools and Justify the diagnosis by discriminating with differential diagnosis.	2	Practical Training 13.6	PSY-GUD	Shows-how	DIS,LRI, D-BED,C BL,CD
CO1,CO2,CO3 ,CO4,CO5,CO 6	Identify the clinical conditions of <i>Venneer</i> and <i>Sottu Neer</i> and design a proper treatment protocol by analysing deranged humors and modern diagnostic tools and advice proper diet regulation, life style modification and also integrate the knowledge about prophylaxis, recent advances through research papers and search for any AYUSH Campaign, National Health Programmes and Plan for further research scope by applying the knowledge gained from various classical siddha literatures and Journals.	3	Experiential-Learning 13.6	PSY-MEC	Does	JC,SY,LS ,DIS

M 13 Unit 7 Neerchurukku (Oliguria)

13.7.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 13.7.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 13.7.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 13.7.4 *Mukkutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools), *Noikanippu vivatham* (Differential diagnosis) 13.7.5 *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol), 13.7.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu*

muraigal (Prophylaxis or vaccination if available) 13.7.7 Modern diagnostic tools 13.7.8 Recent advances through research papers of *Neerchurukku*

References: 1,4,5,7,91

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Describe <i>Neerchurukku</i> (Oliguria) and discuss its synonyms, etiopathogenesis, premonitory symptoms, clinical features, types, curable, incurable states and treatment regimen.	1	Lecture	CC	Knows-how	L
CO1,CO2,CO3	Demonstrate the clinical features, types, Curable & Incurable states and <i>Mukutra verupadu</i> of <i>Neerchurukku</i> Perform the siddha clinical examinations through <i>Envagai thervu</i> and other diagnostic tools and Justify the diagnosis by discriminating with differential diagnosis.	2	Practical Training 13.7	PSY-GUD	Shows-how	D-BED,CD,LRI,DIS,CBL
CO1,CO2,CO3,CO4,CO5,CO6	Identify the clinical conditions of <i>Neerchurukku</i> and design a proper treatment protocol by analysing deranged humors and modern diagnostic tools and advice proper diet regulation, life style modification and also integrate the knowledge about prophylaxis, recent advances through research papers and search for any AYUSH Campaign, National Health Programmes and Plan for further research scope by applying the knowledge gained from various classical siddha literatures and Journals.	3	Experiential-Learning 13.7	PSY-MEC	Does	TPW,IBL,TUT,CBL,LS

Practical Training Activity

Practical Training 13.1 : Newly emerging Viral infections. (Chickungunya, Dengue, Swine Flu, Monkey pox and Covid-19)

Total duration of the activity is 4 Hrs.

I. Faculty demonstrate about the reacently emerging viral infections in the clinical pathology lab. (1 Hr)

II. Students are divided into 5 teams. Each team present a project on the viral infection. (2 Hrs)

III. Teacher will assess the project and conduct a group discussion. (1 Hr)

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 13.2 : Clinical examination of a case of *Suram*

Total duration of the activity is 4 Hrs.

I. Teacher demonstrates the clinical examination of *Suram* (1 Hr)

II. Clinical examination by student in the presence of teacher (2 Hr)

1. Prepare the patient for clinical examination
2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.
3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.
4. Perform the Siddha examination for *Envagai thervu*, *7 Udal thaathukkal*, *Kanma Indriyam*, *Gnana Indriyam*, *Yaakkai ilakkanam*, derangements of humors under the instructor's direction.
5. Assess the affected system and do lab test to identify the cause of Suram including CBC, ESR, CRP, Widal, parasitic detection, LFT, urine examinations, CSF examination, antibody detection, Blood culture and other necessary imaging techniques like CT and MRI
6. Formulate a personalized line of treatment based on altered humors and appropriate internal and external medicine and advise diet regulation and life style modification.

III. Discussion and Assessment by teacher (1 Hr)

At the end of the activity, students should submit a report to the concerned faculty

Practical Training 13.3 : Examination of *Ammai Noi*

Total duration of the activity is 2 Hrs.

I. Teacher discuss about *Ammai Noi* (1 Hr)

II. Presentation of case scenario by the student. (1 Hr)

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 13.4 : Clinical examination of *Kalladaippu* and *Neeradaippu*

Total duration of the activity is 4 Hrs.

I. Tutor demonstrates the clinical examination (1 Hr)

II. Clinical examination by student in the presence of teacher (2 Hrs)

1. Prepare the patient for clinical examination
2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.
3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.
4. Perform the Siddha examination for *Envagai thervu*, 7 *Udal thaathukkal*, *Kanma Indriyam*, *Gnana Indriyam*, *Yaakkai ilakkanam*, derangements of humors with the instructor's help
5. Do imaging techniques like USG, CT
6. Perform the abdominal examination, uro-genital system examination (KUB), urine analysis, metabolic panel, kidney stone analysis, RFT
7. Arrive at a proper diagnosis based on differential diagnosis, other examinations, clinical features and other parameters.
8. Formulate a personalized line of treatment based on altered humors and Diuresis, purgation, and appropriate internal and external medicine, advise diet regulation and life style modification.

III. Discussion and Assessment by teacher (1 Hr)

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 13.5 : Examination of *Vellai noi*

Total duration of the activity is 2 Hrs.

I. Teacher demonstrates the clinical examination (30 Minutes)

II. Clinical examination by student in the presence of teacher (1 Hr)

1. Prepare the patient for clinical examination
2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.
3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.
4. Perform the Siddha examination for *Envagai thervu*, 7 *Udal thaathukkal*, *Kanma Indriyam*, *Gnana Indriyam*, *Yaakkai ilakkanam*, derangements of humors under the instructor's direction
5. Perform the genito urinary examination, other systemic examinations
6. Do the serological test for sexually transmitted infections
7. Perform blood,urine and genital secretions test like PAP smear, vaginal Ph test, gram staining
8. Arrive at a proper diagnosis based on differential diagnosis, other examinations, clinical features and other parameters.
9. Formulate a personalized line of treatment based on altered humors and advice oil bath, purgation, diuresis and appropriate internal and external medicine and advice diet regulation and life style modification.

III. Discussion and Assessment by teacher . (30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 13.6 : Examination of *Venneer* and *Sottu Neer*

Total duration of the activity is 2 Hrs.

I. Teacher demonstrates the clinical examination of *Venneer* and *Sottuneer* . (30 Minutes)

II. Clinical examination by student in the presence of teacher (1 Hr)

1. Prepare the patient for clinical examination
2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.
3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.
4. Perform the Siddha examination for *Envagai thervu*, *7 Udal thaathukkal*, *Kanma Indriyam*, *Gnana Indriyam*, *Yaakkai ilakkanam*, derangements of humors with the guidance of faculty
5. Perform the urogenital system examination, other systemic examinations and other modern diagnostic tools (Imaging techniques, Uro flow metry) and lab diagnosis (urine analysis,RFT, post void residual urine measurement and urine culture)
6. Arrive at a proper diagnosis based on differential diagnosis, other examinations, clinical features and other parameters.
7. Formulate a personalized line of treatment based on altered humors and advise oil bath, purgation, diuresis and appropriate internal and external medicine and advise diet regulation and life style modification.

III. Discussion and Assessment by teacher . (30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 13.7 : Examination of *Neerchurukku*

Total duration of the activity is 2 Hrs.

I. Teacher demonstrates the clinical examination of *Neerchurukku*. (30 Minutes)

II. Clinical examination by student in the presence of teacher (1 Hr)

1. Prepare the patient for clinical examination
2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.
3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.
4. Perform the Siddha examination for *Envagai thervu*, 7 *Udal thaathukkal*, *Kanma Indriyam*, *Gnana Indriyam*, *Yaakkai ilakkanam*, derangements of humors with the instructor's help.
5. Perform urogenital system and other systemic examinations
6. Perform urine culture, urine analysis, presence of nitrites and WBC in urine and imaging techniques
7. Arrive at a proper diagnosis based on differential diagnosis, other examinations, clinical features and other parameters.
8. Formulate a personalized line of treatment based on altered humors and advise oil bath, purgation, diuresis and appropriate internal and external medicine and advise diet regulation and life style modification.

III. Discussion and Assessment by teacher. (30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty.

Experiential learning Activity

Experiential-Learning 13.1 : Assessment of Newly emerging Viral infections. (Chickungunya, Dengue, Swine Flu, Monkey pox and Covid-19)

Total duration of the activity is 5 Hrs.

1. Preparation of booklet and presentation on the siddha clinical evaluation and treatment methods for Chickungunya, Dengue, Swine Flu, Covid-19, Monkey pox. (1 Hr)
2. Library session- to gather update knowledge about recent advances.(1 Hr)
3. Analysis of research papers.(1 Hr)
4. Group discussion and lab report interpretation.(1 Hr)
5. Conduct classes to UG students(1 Hr)

At the end of the activity, students should submit a report to the concerned faculty

Experiential-Learning 13.2 : Assessment of 64 thypes of *Suram*

Total duration of the activity is 5 Hrs.

1. Case base learning-To rule out the cause of *Suram* and seasonal epidemic. (1 Hr)
2. Analysis of appropriate Siddha medicines. (1 Hr)
3. Group discussion on different types of *Suram* and comparison with PUO. (1 Hr)
4. Conducting seminars to the UG students. (1 Hr)
5. Library session and Present the Portfolio. (1 Hr)

At the end of the activity, students should submit a report to the concerned faculty

Experiential-Learning 13.3 : Assessment of *Ammai Noi* (Certain specific Viral infectious diseases)

Total duration of the activity is 3 Hrs.

1. Submit the portfolio of 10 *Ammai Noi* cases. (1 Hr)
2. Group discussion and library session.(1 Hr)
3. Conducting seminars to UG students. (1 Hr)

At the end of the activity, students should submit a report to the concerned faculty

Experiential-Learning 13.4 : Assessment of *Kalladaippu* and *Neeraippu*

Total duration of the activity is 4 Hrs.

1. Perform clinical examination in 5 OPD/IPD patients, advice dietary regulation and life style modification. (1 Hr)
2. Conducting seminar to UG students. (1 Hr)
3. Group discussions and Review of journals. (1 Hr)
4. Seminar to UG students (1 Hr)

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 13.5 : Assessment of *Vellai Noi*

Total duration of the activity is 3 Hrs.

1. Case diagnosis through Clinical examinations in 5 OPD or IPD patients. (2 Hr)
2. Group discussions and List out the drugs. (1 Hr)

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 13.6 : Assessment of *Venneer, Sottuneer*

Total duration of the activity is 3 Hrs.

1. Conduct clinical examination on 5 OPD/IPD patients, advice diet plans and lifestyle modifications (1 Hr)
2. Conducting symposium (1 Hr)
3. Library session. (30 Minutes)
4. Conducting clinical discussion . (30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty

Experiential-Learning 13.7 : Integrated Siddha-Based Clinical Protocol Development for Neerchurukku with Diagnostic, Therapeutic, Prophylactic and Research Perspectives

Total duration of the activity is 3 Hrs.

1. Examine 5 patients of *Neerchurukku* in OPD or IPD clinically and advice dietary regulation and lifestyle modification.(1 Hour)

2. Team Project works to identify the herbs for *Neerchurukku*. (30 Minutes)
3. Inquiry-based learning. (30 Minutes)
4. Conducting seminars to UG students (1 Hour)

At the end of the activity, students should submit a report to the concerned faculty.

Modular Assessment

Assessment method	Hour
Conduct a structured Modular assessment. Assessment will be for 50 marks. Keep structured marking pattern. Use different assessment methods in each module for the semester. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table 6 C. Case Based Assessment-50 marks Design of the Cases • Authenticity: Cases should reflect real clinical situations and be relevant to the student's level of training. • Diversity: Include a variety of cases covering infectious diseases and renal disorders related to Azhal Assess the ability to interpret clinical data, prioritize differential diagnoses, and propose management plans. In a case-based assessment evaluates a student's ability to apply traditional medical knowledge, diagnosis, and treatment principles. The stepwise mark distribution can be structured as follows: 1. Case History & Patient Data Collection ---10 Marks • History taking • <i>Mukutram</i> (Three Humors: <i>Vatham, Pitham, Kapham</i>) analysis • Nadi examination (Pulse Diagnosis) • Past medical history and dietary/lifestyle habits 2. Clinical Examination ---10 Marks • <i>En Vagai Thervugal</i> → Assessment of body constitution (<i>Uyir Thathukkal</i> balance) • Identification of disease stage (<i>Noi kaaranam</i>, patient <i>Vanmai</i>, <i>Noi Vanmai</i>) 3. Differential Diagnosis & Clinical Reasoning ---10 Marks • Identification of the type of disease based on Siddha texts • Justification using <i>Thegi</i>, <i>Udal Thathukkal</i> • Correlation with modern medicine, if applicable 4. Investigations & Interpretation ---5 Marks	4

• Urine analysis (*Neerkkuri & Neikkuri*)

• Applying of *Envagai thervu*

• Other relevant Siddha diagnostic tools

5. Siddha Management & Treatment Plan –**10 Marks**

• Internal medicine • External treatments– *Thokkanam, Varmam, Pathiyam* (dietary regimen)

• Lifestyle modifications including *nithya ozhukkam*

6. Communication, Ethics & Siddha Principles---**5 Marks**

• Explanation of the disease and treatment to the patient

• Ethical considerations in Siddha practice

• Integration of Siddha *Maruthuvam* with holistic well-being

or

Any practical in converted form can be taken for assessment. (25 Marks) - 2 hours

and

Any of the experiential as portfolio/ reflections / presentations can be taken as assessment.(25 Marks) - 2 hours

Module 14 : Renal disorders related to Iyam and Handling Emergency in Siddha System of Medicine

Module Learning Objectives

(At the end of the module, the students should be able to)

Describe the *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis), *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features), *Theerum & Theera Nilai* (Curable & Incurable states) of *Mega neer*, *Thelineer*, *Meganeerkattigal* and also handling emergency conditions like Unconscious patient, performing CPR, handling Respiratory emergency, Lower gastro intestinal bleeding, *Valippu*, reduction of Fracture and dislocation.

Conduct a clinical examination for *Mega neer*, *Thelineer*, *Meganeerkattigal* in a patient to assess the *Mukutra Verupadu* by *Envagai Thervu* and other Siddha diagnostic tools, Perform *Noikanippu vivatham* (Differential diagnosis) to arrive the diagnosis and illustrate the approach to a patient in medical emergency conditions like Unconscious patient, performing CPR, handling Respiratory emergency, Lower gastro intestinal bleeding, *Valippu*, reduction of Fracture and dislocation.

Identify the clinical condition of the patient by performing clinical examination for *Mega neer*, *Thelineer*, *Meganeerkattigal*. Customize the *Maruthuva Vazhi muraigal* (Treatment protocol) and suggest *Pathiyam and Unavu murai* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis and National Health programmes) and analyze the available research papers and handling emergency conditions like Unconscious patient, performing CPR, handling Respiratory emergency, Lower

gastro intestinal bleeding, *Valippu*, Reduction of Fracture and dislocation

M 14 Unit 1 Azhal and Iya Meganeer

14.1.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 14.1.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 14.1.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 14.1.4 *Mukutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools) 14.1.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal* (Treatment protocol) 14.1.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 14.1.7 Modern diagnostic tools 14.1.8 Recent advances through research papers of *Azhal* and *Iya Meganeer*

References: 1,4,5,7,79,80,81,83,84,85,91

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Describe <i>Azhal</i> and <i>Iya Meganeer</i> and discuss its synonyms, etiopathogenesis, premonitory symptoms, clinical features, types, curable, incurable states and treatment regimen.	4	Lecture	CC	Knows-how	L&PPT, L
CO1,CO2,CO3	Demonstrate the clinical features, types, Curable & Incurable states and <i>Mukutra verupadu</i> of <i>Azhal</i> and <i>Iya meganeer</i> , Perform the siddha clinical examinations through <i>Envagai thervu</i> and other diagnostic tools and Justify the diagnosis by discriminating with differential diagnosis.	2	Practical Training 14.1	PSY-GUD	Shows-how	CD,CBL, LRI,DIS
CO1,CO2,CO3,CO4,CO5,CO6	Identify the clinical conditions of <i>Azhal</i> and <i>Iya meganeer</i> and design a proper treatment protocol by analysing deranged humors and modern diagnostic tools and advice proper diet regulation, life style modification and also integrate the knowledge about prophylaxis, recent advances through research papers and search for any AYUSH Campaign, National Health Programmes and Plan for further research scope by applying the knowledge gained from various classical siddha literatures and Journals.	2	Experiential-Learning 14.1	PSY-MEC	Does	CBL,LS, DIS

M 14 Unit 2 Thelineer (Diabetes Insipidus)

14.2.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 14.2.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features), 14.2.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 14.2.4 *Mukkutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools) 14.2.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol) 14.2.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 14.2.7 Modern diagnostic tools 14.2.8 Recent advances through research papers of *TheLINEER*

References: 1,4,5,7,83,85,91

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Describe <i>TheLINEER</i> and discuss its synonyms, etiopathogenesis, premonitory symptoms, clinical features, types, curable, incurable states and treatment regimen.	1	Lecture	CC	Knows-how	L&PPT ,L
CO1,CO2,CO3	Demonstrate the clinical features, types, curable & Incurable states and <i>Mukkutra verupadu</i> of <i>TheLINEER</i> and Perform the siddha clinical examinations through <i>Envagai thervu</i> and other diagnostic tools and Justify the diagnosis by discriminating with differential diagnosis.	2	Practical Training 14.2	PSY-GUD	Shows-how	PAL,D-B ED,LRI,C BL
CO1,CO2,CO3 ,CO4,CO5,CO 6	Identify the clinical conditions of <i>TheLINEER</i> and design a proper treatment protocol by analysing deranged humors and modern diagnostic tools and advice proper diet regulation, life style modification and also integrate the knowledge about prophylaxis, recent advances through research papers and search for any National Health Programmes and Plan for further research scope by applying the knowledge gained from various classical siddha literatures and Journals.	2	Experiential-Learning 14.2	PSY-MEC	Does	LRI,TUT, LS

M 14 Unit 3 Neerizhivu (Diabetes mellitus)

14.3.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 14.3.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 14.3.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 14.3.4 *Mukkutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools) 14.3.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol) 14.3.6 *Pathiyam* and *unavu* (Diet regulation), *Noi*

thaduppu muraigal (Prophylaxis or vaccination if available) 14.3.7 Modern diagnostic tools 14.3.8 Recent advances through research papers of *Neerizhivu* 14.3.9 AYUSH campaigns and National health programmes related to the disease if applicable.

References: 1,4,5,7,62,81,83,84,85,91

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Describe <i>Neerizhivu</i> and discuss its synonyms, etiopathogenesis, premonitory symptoms, clinical features, types, curable, incurable states and treatment regimen.	2	Lecture	CC	Knows-how	L&GD,L_VCL
CO1,CO2,CO3	Demonstrate the clinical features, types, Curable & Incurable states and <i>Mukkuutra verupadu</i> of <i>Neerizhivu</i> , perform the siddha clinical examinations through <i>Envagai thervu</i> and other diagnostic tools, justify the diagnosis by discriminating with differential diagnosis.	2	Practical Training 14.3	PSY-GUD	Shows-how	CBL,DIS,CD,LRI
CO1,CO2,CO3,CO4,CO5,CO6	Identify the clinical conditions of <i>Neerizhivu</i> and design a proper treatment protocol by analysing deranged humors, modern diagnostic tools and advice proper diet regulation, life style modification and also integrate the knowledge about prophylaxis, recent advances through research papers and search for any AYUSH Campaign, National Health Programmes and Plan for further research scope by applying the knowledge gained from various classical siddha literatures and Journals.	2	Experiential-Learning 14.3	PSY-MEC	Does	CBL,LRI,LS,ML

M 14 Unit 4 Meganeer Kattigal (Diabetic abscesses)

14.4.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 14.4.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 14.4.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 14.4.4 *Mukkuutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools) 14.4.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol) 14.4.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 14.4.7 Modern diagnostic tools 14.4.8 Recent advances through research papers of *Meganeer Kattigal*

References: 1,4,5,7,62,83,85,91

3A	3B	3C	3D	3E	3F	3G
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CO1,CO2	Describe <i>Meganeerkattigal</i> and discuss its synonyms, etiopathogenesis, premonitory symptoms, clinical features, types, curable, incurable states and treatment regimen.	3	Lecture	CC	Knows-how	L_VC,L
CO1,CO2,CO3	Demonstrate the clinical features, types, Curable & Incurable states and <i>Mukkutra verupadu</i> of <i>Meganeer kattigal</i> , Perform the siddha clinical examinations through <i>Envagai thervu</i> and other diagnostic tools, justify the diagnosis by discriminating with differential diagnosis.	2	Practical Training 14.4	PSY-GUD	Shows-how	CBL,CD, LRI
CO1,CO2,CO3 ,CO4,CO5,CO 6	Identify the clinical conditions of <i>Meganeerkattigal</i> and design a proper treatment protocol by analysing deranged humors, modern diagnostic tools and advice proper diet regulation, life style modification and also integrate the knowledge about prophylaxis, recent advances through research papers and search for any AYUSH Campaign, National Health Programmes and Plan for further research scope by applying the knowledge gained from various classical siddha literatures and Journals.	2	Experiential-Learning 14.4	PSY-MEC	Does	LS,DA,L RI,CBL

M 14 Unit 5 Unconscious Patient (Sanni nilai)

14.5.1 Assess the *avathai nilai* and *anthakaranam* 14.5.2 Perform Siddha clinical examination 14.5.3 Observe for fatal symptoms. 14.5.4 Treat the patient with internal and external therapy

References: 1,2,72,75,96,100

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Perform the siddha clinical examination in an unconscious patient, assess <i>Avathai nilai</i> , <i>Anthakaranam</i> and observe for fatal symptoms and if there are no fatal symptoms perform <i>Thadavu murai</i> , <i>Adangal</i> , <i>Aakiranam</i> , <i>Nasiyam</i> , <i>Pugai</i> and <i>Kalikam</i> and identify the requirement criteria for referral	2	Practical Training 14.5	PSY-GUD	Shows-how	D-M,CBL ,DIS
CO1,CO3,CO5	Describe the conditions which lead to unconsciousness, its causes and steps to manage the unconscious patient by siddha system of medicine	2	Experiential-Learning 14.5	PSY-MEC	Does	TUT,BL, PBL,D-BED

M 14 Unit 6 Respiratory Emergency (Manthara Kasam)

14.6.1 Get consent from the patient or immediate relative 14.6.2 Enquire the history of previous illness, exposure to drugs, allergen, etc., 14.6.3 Take the vitals and assess the type of respiration, abnormal breath sounds and oxygen saturation. 14.6.4 Treat the patient with *Pugai, Nasiyam* and Internal medicines and Assess for any comorbidities and severity and if severe refer the patient.

References: 1,2,5,47,75,96,100

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Perform the clinical examination to note the vitals like Respiratory rate, Pulse rate, and perform Siddha clinical examinations in a patient respiratory emergency	2	Practical Training 14.6	PSY-GUD	Shows-how	PBL,X-Ray,LRI,CBL,DIS
CO1,CO3,CO5	Identify the type of respiration, abnormal breath sounds and oxygen saturation and treat the patient with <i>Pugai, Nasiyam</i> and Internal medicines and assess for any comorbidities and severity and if severe refer the patient.	4	Experiential-Learning 14.6	AFT-REC	Does	L_VC,PBL,IBL,SIM

M 14 Unit 7 Cardio vascular Emergency

14.7.1 Enquire the history of previous illness, 14.7.2 Note the vitals and Perform CPR till emergency help arrives

References: 1,100,101,102

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Identify the condition of cardio vascular emergency and perform CPR	2	Practical Training 14.7	PSY-GUD	Shows-how	D,D-BED,D-M
CO1,CO3,CO5	Perform CPR in the order of CAB (chest compression, airway opening, rescue breath) and continue the CPR till emergency help arrives in a patient with cardiac emergency	4	Experiential-Learning 14.7	PSY-MEC	Does	FV,CBL,SIM

M 14 Unit 8 Valippu (Convulsions)

14.8.1 Enquire the history of previous episodes 14.8.2 Assess the *Avathai nilai* and *Anthkaranam* 14.8.3 Manage the condition using siddha medications

References: 1,2,72,75,100,101,102

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Perform siddha clinical examinations and modern examinations in a patient with <i>Valippu</i> and manage the patient with siddha clinical measures	2	Practical Training 14.8	PSY-GUD	Shows-how	CD,SIM,CBL
CO1,CO3,CO5	Assess the patient with <i>valippu</i> and study the management outcomes	2	Experiential-Learning 14.8	PSY-MEC	Does	DIS,CBL,SIM

M 14 Unit 9 Lower gastro intestinal bleeding (Eruvai kudal rathapokku)

14. 9. 1 Take history of previous illness and assess the duration and volume of bleeding. 14.9.2 Perform appropriate lab investigations 14.9.3 Manage through siddha treatment and know the referral criteria.

References: 4,5,73,75,99,100,101,102

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Perform the clinical examinations and record the vitals and manage lower gastro intestinal bleeding through siddha treatment and know the referral criteria	2	Practical Training 14.9	PSY-GUD	Shows-how	CBL,D,DIS
CO1,CO3,CO5	Assess the patient with lower gastro intestinal bleeding and study the management outcomes	2	Experiential-Learning 14.9	PSY-MEC	Does	CBL,C_L,DIS

M 14 Unit 10 Fracture and Dislocation (Elumbu murivu matrum ida peyarchi)

14.10.1 Assess the conscious level and *avathai nilai* and quickly perform *envagai thervu* 14.10.2 Assess the type of respiration and oxygen saturation. 14.10.3 Perform clinical examination and in inspection look for swelling, redness and deformity 14.10.4 Evaluate the clinical condition through radiological findings 14.10.4

Plan for management and Identify the condition for referral

References: 73,97,98

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Perform clinical examination and in inspection look for swelling, redness and deformity and in palpation observe for heat, tenderness, crepitus, and restriction of movement or excessive mobility. and evaluate the clinical condition through radiological findings and plan for management and Identify the condition for referral	2	Practical Training 14.10	PSY-GUD	Shows-how	CBL,D,X-Ray,D-BED,D-M
CO1,CO3,CO5	Manage fracture or dislocation by applying splints or bandages	4	Experiential-Learning 14.10	PSY-MEC	Does	LRI,TUT,X-Ray,SI M,LS

Practical Training Activity

Practical Training 14.1 : Examination of *Azhal* and *Iya Meganeer*.

Total duration of the activity is 2 Hrs.

I. Teacher demonstration of clinical examination. (30 Minutes)

II. Clinical examination by student (1 Hour)

1. Prepare the patient for clinical examination
2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.
3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.
4. Perform the Siddha examination for *Envagai thervu*, *7 Udal thaathukkal*, *Kanma Indriyam*, *Gnana Indriyam*, *Yaakkai ilakkanam*, derangements of humors with the presence of teacher
5. Perform urogenital system and other systemic examinations
6. Conduct urine analysis, urine culture, blood glucose analysis, fluid deprivation test
7. Perform imaging techniques like Cystoscopy, USG
8. Arrive at a proper diagnosis based on differential diagnosis, other examinations, clinical features and other parameters.
9. Formulate a personalized line of treatment based on altered humors and advise oil bath, purgation, and appropriate internal and external medicine and advise diet

regulation and life style modification.

III. Discussion and Assessment by teacher. (30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 14.2 : Examination of *TheLINEER*.

Total duration of the activity is 2 Hrs.

I. Teacher demonstration of clinical examination. (30 Minutes)

II. Clinical examination by student (1 Hr)

1. Prepare the patient for clinical examination
2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.
3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.
4. Perform the Siddha examination for *Envagai thervu*, *7 Udal thaathukkal*, *Kanma Indriyam*, *Gnana Indriyam*, *Yaakkai ilakkanam*, derangements of humors with the guidance of teacher
5. Perform the Water deprivation test, Blood glucose level, urine specific gravity test, vasopressin test, measurement of total urine output, serum sodium level, MRI-Brain, Genetic testing and other relevant tests
6. Arrive at a proper diagnosis based on differential diagnosis, other examinations, clinical features and other parameters.
7. Formulate a personalized line of treatment based on altered humors and advise oil bath, purgation, and appropriate internal and external medicine and advise diet regulation and life style modification.

III. Discussion and Assessment by teacher. (30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 14.3 : Examination of *Neerizhivu*

Total duration of the activity is 2 Hrs.

I. Teacher demonstration of clinical examination . (30 Minutes)

II. Clinical examination by student (1 Hr)

1. Prepare the patient for clinical examination
2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.
3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.
4. Perform the Siddha examination for *Envagai thervu*, *7 Udal thaathukkal*, *Kanma Indriyam*, *Gnana Indriyam*, *Yaakkai ilakkanam*, derangements of humors with the guidance of faculty
5. Assess the affected systems and perform lab test like GTT, HbA1C, blood glucose level, ketone bodies in urine, micro-albuminuria
6. Arrive at a proper diagnosis based on differential diagnosis, other examinations, clinical features and other parameters.
7. Formulate a personalized line of treatment based on altered humors and advise oil bath, purgation and appropriate internal and external medicine, Medicines prescribed in *Therayarmaruthu baratham* and advise diet regulation and life style modification.

III. Discussion and Assessment by teacher. (30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 14.4 : Examination of *MegaNeerkattigal*

Total duration of the activity is 2 Hrs.

I. Teacher demonstration of clinical examination. (30 Minutes)

II. Clinical examination by student (1 Hr)

1. Prepare the patient for clinical examination
2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.
3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.
4. Perform the Siddha examination for *Envagai thervu*, *7 Udal thaathukkal*, *Kanma Indriyam*, *Gnana Indriyam*, *Yaakkai ilakkanam*, derangements of humors under the teacher's direction.
5. Perform examination of abscess by inspection, palpation and assess for lymphadenopathy
6. Conduct blood glucose analysis, CBC, HbA1C, Urine analysis, blood and pus culture
7. Perform imaging techniques and FNAC
8. Arrive at a proper diagnosis based on differential diagnosis, other examinations, clinical features and other parameters.
9. Formulate a personalized line of treatment based on altered humors and advise oil bath, purgation, and appropriate internal and external medicine and advise diet

regulation and life style modification.

III. Discussion and Assessment by teacher . (30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 14.5 : Examination of Unconscious patient

Total duration of the activity is 2 Hrs.

I. Teacher demonstration of clinical examination. (30 Minutes)

II. Clinical examination by student in the presence of teacher. (1 Hour)

1. Interpret the patient data from the attender and get consent from the immediate relatives
2. Assess the vitals and do necessary lab investigations
3. Assess the *Avathai nilai* (*Kanavu, Nanavu, Urakkam, Perurakkam, Uyirpadakkam*), *Anthakaranam* (*Manam, Budhi, Sitham, Agangaram*) and the supervision of teacher
4. Study the fatal *Nadi kurigunangal*
5. Perform *Envagai thervu* and assess 7 *Udal kattugal*
6. Observe for fatal symptoms like pupil dilatation with fixed eye ball, *sukkilam* ejaculation, urine and motion incontinence, abnormal *swasa nilai* and *nadi nilai*
7. If there are no fatal symptoms perform the *thadavu murai, adangal, aakraanam, nasiyam, pugai* and *kalikkam* mentioned in siddha texts
8. Identify the requirement criteria for referral.

III. Discussion and Assessment by teacher. (30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 14.6 : Examination of a case of Respiratory emergency

Total duration of the activity is 2 Hrs.

I. Teacher demonstration of clinical examination. (30 Minutes)

II. Clinical examination by student in the presence of teacher. (1 Hour)

1. Get consent from the patient or immediate relative

2. Enquire the history of previous illness, Exposure to drugs, allergen
3. Note the vitals like Respiratory rate, Pulse rate
4. Perform *Envagai* quickly and look for signs of shock (Cold clammy skin)
5. Assess the respiratory system for breathlessness, cough, sneezing, accessory muscles of respiration, abnormal breath sounds and SPO2 level with the supervision of faculty
6. Assess the severity and note for comorbidities.
7. Treat the patient with *Pugai*, *Nasiyam*, *Aakranam* and internal medicines.
8. Know the criteria for referral like BP < 90/60mm Hg,

HR <60/min, >120/min

RR <12/min, >30/min

O2 Saturation <95/min

III. Discussion and Assessment by the teacher. (30 Minutes).

At the end of the activity, students should submit a report to the concerned faculty

Practical Training 14.7 : Performing CPR

Total duration of the activity is 2 Hrs.

I. Teacher demonstration of CPR . (30 Minutes)

II. Performing CPR by student in the presence of teacher. (1 Hour)

1. Get consent from the immediate relative
2. Enquire the history of previous illness, use of drugs, alcohol and history of CAD
3. Note the pulse, respiratory rate, signs of cyanosis and chillness of extremities
4. Perform CPR in the order of CAB (Chest compression, airway opening, rescue breath) with the presence of teacher
5. Apply chest compression and breath in the count 30:2
6. Tilt the head to open the airway
7. Continue the CPR till emergency help arrives or patient responds

III. Discussion and Assessment by the teacher. . (30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty

Practical Training 14.8 : Examination of a patient with *Valippu*

Total duration of the activity is 2 Hrs.

I. Teacher demonstration of clinical examination. (30 Minutes)

II. Clinical examination by student in the presence of teacher. (1 Hour)

1. Get consent from the patient or immediate relatives.
2. Take history of previous episodes, past history of DM, Cardiac diseases, *Suram*, *Sanni*, and trauma and drug withdrawal.
3. Assess the *Avathainilai* and *Anthakaranam*.
4. Perform the *envagai thervu* and look for abnormal *Naadi nilai*, frothy sputum, bite of the tongue, urine and stool incontinence under the guidance of instructor
5. Enquire for any aura or abnormal smell.
6. Examine for tonic, clonic seizure, epileptic cry, absence seizures, etc.,
7. Enquire the duration of seizures.
8. Management a) Avoid giving any sharp object b) Clear the airway c) Perform *adangal* and *Pura maruthuvam*.
9. Know the referral criteria.

III. Discussion and Assessment by the teacher.. (30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty

Practical Training 14.9 : Examination of a patient with Lower gastero intestinal bleeding

Total duration of the activity is 2 Hrs.

I. Teacher demonstration of clinical examination. (30 Minutes)

II. Clinical examination by student in the presence of teacher. (1 Hour)

1. Get consent from the patient or immediate relative.
2. Take history and record the vitals.
3. Enquire for previous illness like liver disorders, drug intake and ano-rectal disorders.
4. Perform abdominal examination

5. Assess the duration and volume of bleeding with the instructor's help.
6. Do appropriate lab investigations and imaging techniques.
7. Manage through siddha treatment.
8. Know the referral criteria.

III. Discussion and Assessment by the teacher. (30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty

Practical Training 14.10 : Manage fracture or dislocation using siddha procedures

Total duration of the activity is 2 Hrs.

I. Teacher demonstration of clinical examination. (30 Minutes)

II. Clinical examination by student in the presence of teacher. (1 Hour)

1. Get consent from the patient or immediate relative and take the history and vitals.
2. Assess the conscious level and *Avathai nilai* under the teacher's direction
3. Quickly perform *Envagai thervu* and assess the type of respiration and oxygen saturation.
4. Perform clinical examination and in inspection look for swelling, redness and deformity.
5. Observe for heat, tenderness, crepitus, and restriction of movement or excessive mobility.
6. Evaluate the clinical condition through radiological findings.
7. Plan for pain management, reduction, application of splint and bandage, internal and external medicine.
8. Identify the condition for referral.

III. Discussion and Assessment by the teacher. (30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty

Experiential learning Activity

Experiential-Learning 14.1 : Assessment of *Azhal* and *Iya Meganeer*.

Total duration of the activity is 2 Hrs.

1. Conduct clinical examination on 5 OPD/IPD patients, advice on diet plans and lifestyle modifications. (30 Minutes)
2. Library session to do a comparative study. (30 Minutes)

2.Clinical discussion. (30 Minutes)

4.Conducting seminars to UG students. (30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 14.2 : Assessment of *Thelineer*

Total duration of the activity is 2 Hrs.

1. Lab report interpretation. (30 Minutes)
2. Analysing case study report. (30 Minutes)
3. Research articles review. (30 Minutes)
4. PPT to UG students. (30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 14.3 : Assessment of *Neerizhivu*

Total duration of the activity is 2 Hrs.

1. Examine 5 OPD/ IPD patients clinically and offer dietary and lifestyle advice and Attending special OPs and preparing case study report (1 Hr)

or

2. Conceptual mapping on *Neerizhivu noi avathaigal*. (1 Hr)
3. Presenting research articles in peer reviewed journals. (1 Hr)

or

4. Conducting awareness camps. (1 Hr)

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 14.4 : Assessment of *Mega Neerkattigal*

Total duration of the activity is 2 Hrs.

1. Assess 5 OPD/IPD patients clinically and provide dietary and lifestyle recommendations and Bedside case demonstration. (30 Minutes)
2. Lab report interpretation. (60 Minutes)
3. Analysis the drug for external therapy. (30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 14.5 : Assessment of Unconscious patient

Total duration of the activity is 2 Hrs.

1. Clinical simulation in a mannequin. (30 Minutes)
2. Problem based learning. (30 Minutes)
3. Flipped classrooms. (30 Minutes)
4. Demonstration of procedures to UG students. (30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 14.6 : Assessment of a case of Respiratory emergency

Total duration of the activity is 4 Hrs.

1. Simulation in Mannequin (1 Hour)
2. Inquiry based learning. (1 Hour)
3. Learning through video clips. (2 Hours)

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 14.7 : Performing CPR

Total duration of the activity is 4 Hrs.

1. Demo on mannequin (1 Hour)
2. Real life experience (1 Hour)

4. Clinical posting in nearest PHC/ GH (2 Hours)

At the end of the activity, students should submit a report to the concerned faculty

Experiential-Learning 14.8 : Assessment of a patient with *Valippu*

Total duration of the activity is 2 Hrs.

1. Simulation in mannequin (30 Mins)
2. Case study and Siddha treatment protocol. (30 Mins)
3. Animation/ AI to differentiate the type of epilepsy (1 Hr)

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 14.9 : Assessment the patient with lower gastro intestinal bleeding

Total duration of the activity is 2 Hrs.

1. Examine patients with OPD or IPD clinically and offer dietary and lifestyle advice. (30 Minutes)
2. Review of research articles . (30 Minutes)
3. Seminar to UG students. (30 Minutes)
4. Case study and Group discussion on causes of GI bleeding. (30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty

Experiential-Learning 14.10 : Manage fracture or dislocation by placing splints or bandages

Total duration of the activity is 4 Hrs.

1. Simulation in models (1 Hour)
2. X-ray and other lab report identification. (1 Hour)

3. Read and search for related Siddha Texts. (1 Hour)

4. Demonstration to UG students (1 Hour)

At the end of the activity, students should submit a report to the concerned faculty.

Modular Assessment

Assessment method

Hour

Conduct a structured Modular assessment. Assessment will be for 50 marks. Keep structured marking pattern. Use different assessment methods in each module for the semester. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table 6 C.

4

OSCE (Objective Structured Clinical Examination) Assessment- 50 Marks

Assessment and Scoring

1. Case History & Patient Interaction ----10 Marks

- Chief complaints & history-taking
- Assessment of Mukkutram imbalance
- Patient's dietary and lifestyle habits (*Unavu & Vazhviyal*)

2. Clinical Examination ----10 Marks

- *Nadi Paritchai* (Pulse Diagnosis) – Identifying the *mukkutram*
- *En Vagai Thervugal* (Eightfold Examination)
- Identification of *Noi Thodam*, *Noi Mudhal kaaranam*

3. Differential Diagnosis & Clinical Reasoning ---10 Marks

- Identification of the disease (*Noi Nadal*)
- Justification using Siddha texts (*Therayar, Agasthiyar, Yugi Muni*)
- Correlation with modern medical conditions, if applicable

4. Investigations & Lab Interpretation ---5 Marks

- Siddha diagnostic tests (Urine analysis, *Neikkuri*, Tongue & Eye diagnosis)
- Interpretation of lab results, if applicable
- Decision-making based on diagnostic findings

5. Siddha Treatment & Management Plan ---10 Marks

- Internal medicine (*Aga Maruthuvam*) – Choosing proper *Kudineer*, *Chooranam*, *Leghiyam*, *Parpam*, *Chenduram*
- External treatments (*Pura Maruthuvam*) – *Thokkanam* (massage), *Ottradam* (hot/cold compress), *Varmam* therapy, *Kattu* (bandage)
- Diet & Lifestyle recommendations (*Pathiyam & Yoga* therapy)

6. Communication, Ethics & Siddha Principles ---5 Marks

- Clear patient communication about the disease and treatment
- Ethical considerations in Siddha practice

or

Any practical in converted form can be taken for assessment. (25 Marks) - 2 hours

and

Any of the experiential as portfolio/ reflections / presentations can be taken as assessment. (25 Marks) - 2 hours

Semester No : 6

Module 15 : Gastro Intestinal diseases related to Azhal

Module Learning Objectives

(At the end of the module, the students should be able to)

Describe the *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis), *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features), *Theerum & Theera Nilai* (Curable & Incurable states) of *Suvai inmai*, *Seriyamai*, *Neervetkai*, *Vanthi*, *Ninakalichal*, *Perunkalichal*, *Kaduppukalichal*.

Conduct a clinical examination for *Suvai inmai*, *Seriyamai*, *Neervetkai*, *Vanthi*, *Ninakalichal*, *Perunkalichal*, *Kaduppukalichal* in a patient to assess the *Mukkutra Verupadu* by *Envagai Thervu* and other Siddha diagnostic tools, Perform *Noikanippu vivatham* (Differential diagnosis) to arrive the diagnosis.

Identify the clinical condition of the patient by performing clinical examination for *Suvai inmai*, *Seriyamai*, *Neervetkai*, *Vanthi*, *Ninakalichal*, *Perunkalichal*, *Kaduppukalichal*, customize the *Maruthuva Vazhi muraigal* (Treatment protocol) and suggest *Pathiyam* and *Unavu murai* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis and National Health programmes) and analyze the available research papers.

M 15 Unit 1 Suvai inmai (Taste disorders)

15.1.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 15.1.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 15.1.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 15.1.4 *Mukkutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools) 15.1.5 *Noikanippu vivatham* (Differential

diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol) 15.1.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 15.1.7 Modern diagnostic tools 15.1.8 Recent advances through research papers of *Suvai inmai*

References: 1,4,5,7,83,85,91

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Describe <i>Suvai inmai</i> and discuss its synonyms, etiopathogenesis, premonitory symptoms, clinical features, types, curable, incurable states and treatment regimen.	1	Lecture	CC	Knows-how	L&PPT ,L
CO1,CO2,CO3	Demonstrate the clinical features, types, Curable & Incurable states and <i>Mukkutra verupadu</i> of <i>Suvai inmai</i> and perform the siddha clinical examinations through <i>envagai thervu</i> and other diagnostic tools and Justify the diagnosis by discriminating with differential diagnosis.	2	Practical Training 15.1	PSY-GUD	Shows-how	CBL,D-B ED,CD,L RI,DIS
CO1,CO2,CO3 ,CO4,CO5,CO 6	Identify the clinical conditions of <i>Suvai inmai</i> and design a proper treatment protocol by analysing deranged humors, modern diagnostic tools and advice proper diet regulation, life style modification and also integrate the knowledge about prophylaxis, recent advances through research papers and Plan for further research scope by applying the knowledge gained from various classical siddha literatures and Journals.	3	Experiential-Learning 15.1	PSY-MEC	Does	PER,CBL ,DIS,SY

M 15 Unit 2 Seriyamai (Indigestion)

15.2.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 15.2.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 15.2.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 15.2.4 *Mukkutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools) 15.2.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol) 15.2.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 15.2.7 Modern diagnostic tools 15.2.8 Recent advances through research papers of *Seriyamai*

References: 1,4,5,7,83,85,91

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Describe <i>Seriyamai</i> and discuss its synonyms, etiopathogenesis, premonitory symptoms,	1	Lecture	CC	Knows-	L

	clinical features, types, curable, incurable states and treatment regimen.				how	
CO1,CO2,CO3	Demonstrate the clinical features, types, Curable & Incurable states and <i>Mukkuutra verupadu</i> of <i>Seriyamai</i> and perform the siddha clinical examinations through <i>envagai thervu</i> , other diagnostic tools and justify the diagnosis by discriminating with differential diagnosis.	2	Practical Training 15.2	PSY-GUD	Shows-how	CBL,D-BED,CD
CO1,CO2,CO3,CO4,CO5,CO6	Identify the clinical conditions of <i>Seriyamai</i> and design a proper treatment protocol by analysing deranged humors and modern diagnostic tools and advice proper diet regulation, life style modification and also integrate the knowledge about , recent advances through research papers and Plan for further research scope by applying the knowledge gained from various classical siddha literatures and Journals.	3	Experiential-Learning 15.2	PSY-MEC	Does	CD,CBL,DIS,TUT

M 15 Unit 3 Neervetkai (Polydipsia)

15.3.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 15.3.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 15.3.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 15.3.4 *Mukkuutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools) 15.3.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol) 15.3.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 15.3.7 Modern diagnostic tools 15.3.8 Recent advances through research papers of *Neervetkai*

References: 1,4,5,7,83,85,91

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Describe <i>Neervetkai</i> and discuss its synonyms, etiopathogenesis, premonitory symptoms, clinical features, types, curable, incurable states and treatment regimen.	1	Lecture	CC	Knows-how	L,L&PPT
CO1,CO2,CO3	Demonstrate the clinical features, types, Curable & Incurable states and <i>Mukkuutra verupadu</i> of <i>Neervetkai</i> and perform the siddha clinical examinations through <i>envagai thervu</i> , other diagnostic tools and justify the diagnosis by discriminating with differential diagnosis	2	Practical Training 15.3	PSY-GUD	Shows-how	CBL,PBL
CO1,CO2,CO3	Identify the clinical conditions of <i>Neervetkai</i> and design a proper treatment protocol by	3	Experiential-	PSY-	Does	CBL,TP

,CO4,CO5,CO6	analysing deranged humors and modern diagnostic tools and advice proper diet regulation, life style modification and also integrate the knowledge about recent advances through research papers and Plan for further research scope by applying the knowledge gained from various classical siddha literatures and Journals.		Learning 15.3	MEC		W,DA,CD
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M 15 Unit 4 Vanthi (Vomiting)

15.4.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 15.4.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 15.4.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 15.4.4 *Mukkutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools) 15.4.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol) 15.4.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 15.4.7 Modern diagnostic tools 15.4.8 Recent advances through research papers of *Vanthi*

References: 1,4,5,7,83,85,91

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Describe <i>Vanthi</i> and discuss its synonyms, etiopathogenesis, premonitory symptoms, clinical features, types, curable, incurable states and treatment regimen.	2	Lecture	CC	Knows-how	L&PPT ,L
CO1,CO2,CO3	Demonstrate the clinical features, types, Curable & Incurable states and Mukkutra verupadu of <i>Vanthi</i> and perform the siddha clinical examinations through envagai thervu, other diagnostic tools and justify the diagnosis by discriminating with differential diagnosis.	4	Practical Training 15.4	PSY-GUD	Shows-how	CBL,CD, PL,DIS,D-BED
CO1,CO2,CO3 ,CO4,CO5,CO6	Identify the clinical conditions of <i>Vanthi</i> and design a proper treatment protocol by analysing deranged humors and modern diagnostic tools and advice proper diet regulation, life style modification and also integrate the knowledge about recent advances through research papers , Plan for further research scope by applying the knowledge gained from various classical siddha literatures and Journals.	4	Experiential-Learning 15.4	PSY-MEC	Does	LS,CBL, CD,DIS,P BL

M 15 Unit 5 Ninakalichal (Amoebic dysentery)

15.5.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 15.5.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal*

(Common clinical features) 15.5.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 15.5.4 *Mukkutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools) 15.5.6 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol) 15.5.7 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 15.5.8 Modern diagnostic tools 15.5.9 Recent advances through research papers of *Ninakalichal*

References: 1,4,5,7,78,83,85,91

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Demonstrate <i>Ninakalichal</i> and discuss its synonyms, etiopathogenesis, premonitory symptoms, clinical features, types, curable, incurable states and treatment regimen.	2	Lecture	CC	Knows-how	L&PPT ,L
CO1,CO2,CO3	Demonstrate the clinical features, types, Curable & Incurable states and <i>Mukkutra verupadu</i> of <i>Ninakalichal</i> and perform the siddha clinical examinations through <i>envagai thervu</i> , other diagnostic tools and justify the diagnosis by discriminating with differential diagnosis	4	Practical Training 15.5	PSY-GUD	Shows-how	DIS,CBL, CD,D-BED
CO1,CO2,CO3 ,CO4,CO5,CO 6	Identify the clinical conditions of <i>Ninakalichal</i> and design a proper treatment protocol by analysing deranged humors and modern diagnostic tools and advice proper diet regulation, life style modification and also integrate the knowledge about recent advances through research papers and Plan for further research scope by applying the knowledge gained from various classical siddha literatures and Journals.	5	Experiential-Learning 15.5	PSY-MEC	Does	PL,LS,D A,JC,CB L

M 15 Unit 6 Perunkalichal (Diarrhoea)

15.6.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 15.6.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 15.6.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 15.6.4 *Mukkutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools) 15.6.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol) 15.6.5 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 15.6.6 Modern diagnostic tools 15.6.7 Recent advances through research papers of *Perunkalichal*

References: 1,4,5,7,78,83,85,91

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3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Describe Perunkalichal and discuss its synonyms, etiopathogenesis, premonitory symptoms, clinical features, types, curable, incurable states and treatment regimen of Pernkalichal.	2	Lecture	CC	Knows-how	DIS,L
CO1,CO2,CO3	Demonstrate the clinical features, types, Curable & Incurable states and <i>Mukkutra verupadu</i> of <i>Perunkalichal</i> and perform the siddha clinical examinations through <i>envagai thervu</i> ,other diagnostic tools and justify the diagnosis by discriminating with differential diagnosis.	4	Practical Training 15.6	PSY-GUD	Shows-how	DIS,CBL, CD,LRI, D-BED
CO1,CO2,CO3 ,CO4,CO5,CO 6	Identify the clinical conditions of <i>Perunkalichal</i> and design a proper treatment protocol by analysing deranged humors and modern diagnostic tools and advice proper diet regulation, life style modification and also integrate the knowledge about prophylaxis, recent advances through research papersand Plan for further research scope by applying the knowledge gained from various classical siddha literatures and Journals.	5	Experiential-Learning 15.6	PSY-MEC	Does	LRI,CBL, PL,CD,L S

M 15 Unit 7 Kaduppukalichal (Bacillary dysentery)

15.7.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 15.7.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 15.7.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 15.7.4 *Mukkutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools) 15.7.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol) 15.7.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 15.7.7 Modern diagnostic tools 15.7.8 Recent advances through research papers of *Kaduppukalichal*

References: 1,4,5,7,78,83,85,91

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Describe <i>Kaduppukalichal</i> and discuss its synonyms, etiopathogenesis, premonitory symptoms, clinical features, types, curable, incurable states and treatment regimen.	1	Lecture	CC	Knows-how	L&PPT ,L
CO1,CO2,CO3	Demonstrate the clinical features, types, Curable & Incurable states and <i>Mukkutra verupadu</i> of <i>Kaduppukalichal</i> and perform the siddha clinical examinations through	2	Practical Training 15.7	PSY-GUD	Shows-how	LRI,D-B ED,CBL,

	envagai thervu, other diagnostic tools and justify the diagnosis by discriminating with differential diagnosis.					DIS,CD
CO1,CO2,CO3 ,CO4,CO5,CO 6	Identify the clinical conditions of <i>Kaduppukalichal</i> and design a proper treatment protocol by analysing deranged humors and modern diagnostic tools and advice proper diet regulation, life style modification and also integrate the knowledge about recent advances through research papers and Plan for further research scope by applying the knowledge gained from various classical siddha literatures and Journals.	3	Experiential-Learning 15.7	PSY-MEC	Does	CBL,TUT ,LRI,LS, ML

Practical Training Activity

Practical Training 15.1 : Examination of *Suvai inmai*.

Total duration of the activity is 2 Hrs.

I. Teacher demonstration of clinical examination. (30 Minutes)

II. Clinical examination by student (1 Hour)

1. Prepare the patient for clinical examination
2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.
3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.
4. Perform the Siddha examination for Envagai thervu, 7 Udal thaathukkal, Kanma Indriyam, *Gnana Indriyam*, *Yaakkai ilakkanam*, derangements of humors under the teacher's direction
5. Evaluate the patient bedside
6. Perform blood test to assess vitamin or mineral deficiency, taste test, smell test and imaging techniques like CT, MRI
7. Arrive at a proper diagnosis based on differential diagnosis, other examinations, clinical features and other parameters.
8. Formulate a personalized line of treatment based on altered humors and advise oil bath, purgation, and appropriate internal and external medicine and advise diet regulation and life style modification.

III. Discussion and Assessment by teacher. (30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 15.2 : Examination of *Seiyamai*.

Total duration of the activity is 2 Hrs.

I. Teacher demonstration of clinical examination. (30 Minutes)

II. Clinical examination by student (1 Hour)

1. Prepare the patient for clinical examination
2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.
3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.
4. Perform the Siddha examination for Envagai thervu, 7 Udal thaathukkal, Kanma Indriyam, Gnana Indriyam, Yaakkai ilakkanam, derangements of humors with the instructor's help.
5. Assess the gastrointestinal system and perform physical examination, endoscopy, USG, gastric emptying studies
6. Perform blood test to detect anemia, LFT, H. pylori test, CT and other necessary investigations
7. Arrive at a proper diagnosis based on differential diagnosis, other examinations, clinical features and other parameters.
8. Formulate a personalized line of treatment based on altered humors and advise oil bath, purgation, vamanam and appropriate internal and external medicine and advise diet regulation and life style modification.

III. Discussion and Assessment by teacher. (30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 15.3 : Examination of *Neervetkai*.

Total duration of the activity is 2 Hrs.

I. Teacher demonstration of clinical examination (30 Minutes)

II. Clinical examination by student (1 Hour)

1. Prepare the patient for clinical examination
2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.
3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.
4. Perform the Siddha examination for *Envagai thervu, 7 Udal thaathukkal, Kanma Indriyam, Gnana Indriyam, Yaakkai ilakkanam*, derangements of humors with the

guidance of faculty

5. Perform lab diagnosis for blood glucose, CBC, urine analysis, urine electrolytes, serum electrolytes, serum calcium and serum sodium test, water restriction test
6. Arrive at a proper diagnosis based on differential diagnosis, other examinations, clinical features and other parameters.
7. Formulate a personalized line of treatment based on altered humors and advise oil bath, purgation, and appropriate internal and external medicine and advise diet regulation and life style modification.

III. Discussion and Assessment by teacher(30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 15.4 : Examination of Vanthi.

Total duration of the activity is 4 Hrs.

I. Teacher demonstration of clinical examination (1 Hour)

II. Clinical examination by student (2 Hours)

1. Prepare the patient for clinical examination
2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.
3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.
4. Perform the Siddha examination for Envagai thervu, 7 Udal thaathukkal, Kanma Indriyam, Gnana Indriyam, Yaakkai ilakkanam, derangements of humors under the teacher's direction.
5. Perform CBC, electrolytes, urine analysis, stool culture, gastric emptying studies and imaging techniques like CT
6. Arrive at a proper diagnosis based on differential diagnosis, other examinations, clinical features and other parameters.
7. Formulate a personalized line of treatment based on altered humors and advise oil bath, purgation, and appropriate internal and external medicine and advise diet regulation and life style modification.

III. Discussion and Assessment by teacher (1 Hour)

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 15.5 : Examination of *Ninakalichal*.

Total duration of the activity is 4 Hrs.

I. Teacher demonstration of clinical examination (1 Hour)

II. Clinical examination by student (2 Hours)

1. Prepare the patient for clinical examination
2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.
3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.
4. Perform the Siddha examination for *Envagai thervu*, *7 Udal thaathukkal*, *Kanma Indriyam*, *Gnana Indriyam*, *Yaakkai ilakkanam*, derangements of humors with the guidance of faculty
5. Perform the abdominal examination and check the vitals for BP and pulse
6. Perform CBC, stool test, stool culture, RFT and other lab diagnosis which ever necessary
7. Arrive at a proper diagnosis based on differential diagnosis, other examinations, clinical features and other parameters.
8. Formulate a personalized line of treatment based on altered humors and advise oil bath and appropriate internal medicine and advise diet regulation and life style modification.

III. Discussion and Assessment by teacher (1 Hour)

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 15.6 : Examination of *Perunkalichal*.

Total duration of the activity is 4 Hrs.

I. Teacher demonstration of clinical examination (1 Hour)

II. Clinical examination by student (2 Hours)

1. Prepare the patient for clinical examination
2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.

3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.
4. Perform the Siddha examination for *Envagai thervu*, *7 Udal thaathukkal*, *Kanma Indriyam*, *Gnana Indriyam*, *Yaakkai ilakkanam*, derangements of humors under the instructor's direction
5. Perform the abdominal examination and check the vitals for BP and pulse
6. Perform CBC, stool test, stool culture, RFT and other lab diagnosis which ever necessary
7. Arrive at a proper diagnosis based on differential diagnosis, other examinations, clinical features and other parameters.
8. Formulate a personalized line of treatment based on altered humors and advise oil bath and appropriate internal medicine and advise diet regulation and life style modification.

III. Discussion and Assessment by teacher (1 Hour)

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 15.7 : Examination of *Kaduppukalichal*.

Total duration of the activity is 2 Hrs.

I. Teacher demonstration of clinical examination (30 Minutes)

II. Clinical examination by student (1 Hour)

1. Prepare the patient for clinical examination
2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.
3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.
4. Perform the Siddha examination for *Envagai thervu*, *7 Udal thaathukkal*, *Kanma Indriyam*, *Gnana Indriyam*, *Yaakkai ilakkanam*, derangements of humors with the guidance of faculty
5. Perform the abdominal examination by inspection, auscultation and check the vitals for BP and pulse
6. Perform CBC, stool test, stool culture, RFT, endoscopy, sigmoidoscopy, and other lab diagnosis which ever necessary
7. Arrive at a proper diagnosis based on differential diagnosis, other examinations, clinical features and other parameters.
8. Formulate a personalized line of treatment based on altered humors and advise oil bath and appropriate internal medicine and advise diet regulation and life style modification.

III. Discussion and Assessment by teacher (30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty.

Experiential learning Activity

Experiential-Learning 15.1 : Assessment of Suvai inmai.

Total duration of the activity is 3 Hrs.

1. Perform clinical examination in 5 OPD/IPD patients, advice dietary regulation and life style modification. (1 Hour)
2. Conducting symposium related to therapeutics. (1 Hour)
3. Group discussions and digital presentation. (1 Hour)

At the end of the activity, students should submit a report to the concerned faculty

Experiential-Learning 15.2 : Assessment of *Seriyamai*.

Total duration of the activity is 3 Hrs.

1. Conduct clinical examination on 5 OPD/IPD patients, advice diet plans and lifestyle modifications. (1 Hour)
2. Conducting seminars to UG students. (1 Hour)
3. Clinical discussion. (1 Hour)

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 15.3 : Assessment of Neervetkai.

Total duration of the activity is 3 Hrs.

1. Perform clinical evaluations on 5 patients with OPD or IPD and offer dietary and lifestyle recommendations. (1 Hour)
2. Team project work. (1 Hour)
3. Drug selection(30 Minutes)
4. Creativity writing(30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty

Experiential-Learning 15.4 : Assessment of *Vanthi*.

Total duration of the activity is 4 Hrs.

1. Perform clinical examination in 5 OPD/IPD patients, advice dietary regulation and life style modifications. (1 Hour)
2. Group discussions. (30 Minutes)
3. Problem based learning.(30 Minutes)
4. Review of journals and research articles. (1 Hour)
5. Conducting classes to UG students. (1 Hour)

At the end of the activity, students should submit a report to the concerned faculty

Experiential-Learning 15.5 : Assessment of *Ninakalichal*.

Total duration of the activity is 5 Hrs.

1. Conduct clinical examination on 5 OPD/IPD patients, advice on diet plans and lifestyle modifications. (1 Hour)
2. Case based learning. (1 Hour)
3. Drug selection. (1 Hour)
4. Group discussion.(1 Hour)
5. Peer Learning. (1 Hour)

At the end of the activity, students should submit a report to the concerned faculty

Experiential-Learning 15.6 : Assessment of *Perunkalichal*.

Total duration of the activity is 5 Hrs.

1. Perform clinical evaluations on 5 patients with OPD or IPD and offer dietary and lifestyle recommendations. (1 Hour)
2. Peer learning.(1 Hour)
3. Clinical discussions.(1 Hour)
4. Lab report interpretation.(1 Hour)
5. Conducting seminar to UG students. (1 Hour)

At the end of the activity, students should submit a report to the concerned faculty

Experiential-Learning 15.7 : Assessment of *Kaduppukalichal*.

Total duration of the activity is 3 Hrs.

1. Perform clinical examination in 5 OPD/IPD patients, advice dietary regulation and life style modification. (1 Hour)
2. Lab report interpretation.(30 Minutes)
3. Library session to review research papers (1 Hour)
4. Conducting seminars. (30 Minutes)

Submission of report to the faculty.

Modular Assessment

Assessment method

Hour

Conduct a structured Modular assessment. Assessment will be for 50 marks for two credits. Keep structured marking pattern. Use different assessment

4

methods in each module for the semester. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table 6 C.

Case Based Assessment-50 marks

1. Design of the Cases

- Authenticity: Cases should reflect real clinical situations and be relevant to the student's level of training.
- Diversity: Include a variety of cases **covering gastro Intestinal diseases related to Azhal**

Assess the ability to interpret clinical data, prioritize differential diagnoses, and propose management plans.

In a case-based assessment evaluates a student's ability to apply traditional medical knowledge, diagnosis, and treatment principles. The stepwise mark distribution can be structured as follows:

1. Case History & Patient Data Collection ---**10 Marks**

- History taking
- *Mukutram* (Three Humors: *Vatham, Pitham, Kapham*) analysis
- *Nadi* examination (Pulse Diagnosis)
- Past medical history and dietary/lifestyle habits

2. Clinical Examination ---**10 Marks**

- *En Vagai Thervugal* → Assessment of body constitution (*Uyir Thathukkal* balance)
- Identification of disease stage (*Noi kaaranam*, patient *Vanmai*, *Noi Vanmai*)

3. Differential Diagnosis & Clinical Reasoning ---**10 Marks**

- Identification of the type of disease based on Siddha texts
- Justification using *Thegi*, *Udal Thathukkal*
- Correlation with modern medicine, if applicable

4. Investigations & Interpretation ---**5 Marks**

- Urine analysis (*Neerkkuri* & *Neikkuri*)
- Applying of *Envagai thervu*
- Other relevant Siddha diagnostic tools

5. Siddha Management & Treatment Plan ---**10 Marks**

- Internal medicine • External treatments– *Thokkanam*, *Varmam*, *Pathyam* (dietary regimen)
- Lifestyle modifications including *nithya ozhukkam*

6. Communication, Ethics & Siddha Principles---**5 Marks**

- Explanation of the disease and treatment to the patient
- Ethical considerations in Siddha practice
- Integration of Siddha *Maruthuvam* with holistic well-being

or

Any practical in converted form can be taken for assessment. (25 Marks) - 2 hours
and

Any of the experiential as portfolio/ reflections / presentations can be taken as assessment.(25 Marks) - 2 hours

Module 16 : Iya Noigal – 21 and Gastro intestinal diseases related to Iyam

Module Learning Objectives

(At the end of the module, the students should be able to)

Describe the *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis), *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features), *Theerum & Theera Nilai* (Curable & Incurable states) of *Iya noi 21* and *Oozhi noi*.

Conduct a clinical examination for *Iya noi 21* and *Oozhi noi* in a patient to assess the *Mukkuutra Verupadu* by *Envagai Thervu* and other Siddha diagnostic tools, Perform *Noikanippu vivatham* (Differential diagnosis) to arrive the diagnosis.

Identify the clinical condition of the patient by performing clinical examination for *Iya noi 21* and *Oozhi noi*, customize the *Maruthuva Vazhi muraigal* (Treatment protocol) and suggest *Pathiyam* and *Unavu murai* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis and National Health programmes) and analyze the available research papers.

M 16 Unit 1 Iya Noigal-I (Kapha diseases-I)

16.1.1 *Erumal Iyanai, Kasa Iyanai, Swasam Iyanai, Theebanam Iyanai, Mantham Iyanai, Vali Iyanai, Azhal Iyanai-Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 16.1.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 16.1.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 16.1.4 *Mukkuutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools) 16.1.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal* (Treatment protocol) 16.1.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 16.1.7 Modern diagnostic tools 16.1.8 Recent advances through research papers

References: 1,4,5,7,70,83,91

3A	3B	3C	3D	3E	3F	3G
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CO1,CO2	Discuss the causes,pathogenesis,premonitory symptoms, clinical features of <i>Erumal Iyanoi, Kasa Iyanoi, Swasam Iyanoi,Theebanam Iyanoi, Mantham Iyanoi, Vali Iyanoi, Azhal Iyanoi.</i>	3	Lecture	CC	Knows-how	L,L&GD
CO1,CO2,CO3	Demonstrate the siddha clinical examination and other systemic examination for <i>Erumal Iyanoi, Kasa Iyanoi, Swasam Iyanoi,Theebanam Iyanoi, Mantham Iyanoi, Vali Iyanoi, Azhal Iyanoi,</i>	6	Practical Training 16.1	PSY-GUD	Shows-how	D-BED,C BL,LRI,C D,DIS
CO1,CO2,CO3 ,CO4,CO5,CO 6	Identify the clinical conditions of <i>Erumal Iyanoi, Kasa Iyanoi, Swasam Iyanoi,Theebanam Iyanoi, Mantham Iyanoi, Vali Iyanoi, Azhal Iyanoi</i> and design a proper treatment protocol by analysing deranged humors and modern diagnostic tools and design a comparative study of classification of <i>Iya noigal</i> according to <i>Yugimuni</i> and other sages.	8	Experiential-Learning 16.1	PSY-GUD	Shows-how	DIS,TUT, CBL,Mnt, JC

M 16 Unit 2 Iya Noigal-II (Kapha diseases-II)

16.2.1 *Mukkoottu Iyanoi, Sugasanni Iyanoi, Sura Iyanoi, Athisaara Iyanoi,Neerkovai Iyanoi, Anal Iyanoi, Bootham Iyanoi- Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 16.2.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 16.2.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 16.2.4 *Mukkuutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools) 16.2.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol) 16.2.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 16.2.7 Modern diagnostic tools 16.2.8 Recent advances through research papers

References: 1,4,5,7,70,83,91

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Discuss the causes, pathogenesis, premonitory symptoms, clinical features of <i>Mukkoottu Iyanoi, Sugasanni Iyanoi, Sura Iyanoi, Athisaara Iyanoi,Neerkovai Iyanoi, Anal Iyanoi, Bootham Iyanoi.</i>	3	Lecture	CC	Knows-how	L,L&PPT
CO1,CO2,CO3	Demonstrate the Siddha clinical examination and necessary systemic examination of <i>Mukkoottu Iyanoi, Sugasanni Iyanoi, Sura Iyanoi, Athisaara Iyanoi,Neerkovai Iyanoi,</i>	6	Practical Training 16.2	PSY-GUD	Shows-how	LRI,CBL, DIS,CD

	<i>Anal Iyanoi, Bootham Iyanoi,</i>					
CO1,CO2,CO3 ,CO4,CO5,CO 6	Identify the clinical conditions of <i>Mukkoottu Iyanoi, Sugasanni Iyanoi, Sura Iyanoi, Athisaara Iyanoi, Neerkovai Iyanoi, Anal Iyanoi, Bootham Iyanoi</i> and design a proper treatment protocol by analysing deranged humors and modern diagnostic tools and design a comparative study of classification of Iya noigal according to <i>Yugimuni</i> and other sages.	8	Experiential-Learning 16.2	PSY-MEC	Does	DIS,JC,LS,CBL,CD

M 16 Unit 3 Iya Noigal-III (Kapha diseases-III)

16.3.1 *Muyalakan Iyanoi, Veri Iyanoi, Vigaaram Iyanoi, Suronitham Iyanoi, Viranam Iyanoi, Thurkantham Iyanoi, Nithiyam Iyanoi*- Iyal (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 16.3.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 16.3.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 16.3.4 *Mukkutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools) 16.3.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol) 16.3.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 16.3.7 Modern diagnostic tools 16.3.8 Recent advances through research papers

References: 1,4,5,7,70,83,91

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Discuss the causes, pathogenesis, premonitory symptoms, clinical features of <i>Muyalakan Iyanoi, Veri Iyanoi, Vigaaram Iyanoi, Suronitham Iyanoi, Viranam Iyanoi, Thurkantham Iyanoi, Nithiyam Iyanoi</i> .	3	Lecture	CC	Knows-how	L&GD,L
CO1,CO2,CO3	Demonstrate the Siddha clinical examination and other clinical examination for <i>Muyalakan Iyanoi, Veri Iyanoi, Vigaaram Iyanoi, Suronitham Iyanoi, Viranam Iyanoi, Thurkantham Iyanoi, Nithiyam Iyanoi</i> .	6	Practical Training 16.3	PSY-GUD	Shows-how	CD,D-BE D,LRI,CBL,DIS
CO1,CO2,CO3 ,CO4,CO5,CO 6	Identify the clinical conditions of <i>Muyalakan Iyanoi, Veri Iyanoi, Vigaaram Iyanoi, Suronitham Iyanoi, Viranam Iyanoi, Thurkantham Iyanoi, Nithiyam Iyanoi</i> and design a proper treatment protocol by analysing deranged humors and modern diagnostic tools and design a comparative study of classification of Iya noigal according to <i>Yugimuni</i> and other sages.	8	Experiential-Learning 16.3	PSY-MEC	Does	CD,LS,CBL,DIS,ML

M 16 Unit 4 Oozhi Noi (Cholera)

16.4.1 *Iyal* (Definition), *Veru peyargal* (Synonyms), *Noi varum vazhi* (Etiopathogenesis) 16.4.2 *Murkurigunangal* (Premonitory symptoms), *Pothu kurigunangal* (Common clinical features) 16.4.3 *Theerum & Theera Nilai* (Curable & Incurable states), *Noi thodangal matrum thunai noigal* (Complication and associated diseases) 16.4.4 *Mukkuutra Verupadu* and *Envagai Thervu* (Derangement of humors and Siddha diagnostic tools) 16.4.5 *Noikanippu vivatham* (Differential diagnosis), *Munkanippu* (Prognosis), *Maruthuva Vazhi muraigal*(Treatment protocol) 16.4.6 *Pathiyam* and *unavu* (Diet regulation), *Noi thaduppu muraigal* (Prophylaxis or vaccination if available) 16.4.7 Modern diagnostic tools 16.4.8 Recent advances through research papers of *Oozhi Noi*

References: 1,4,5,7,29,83,85,91

3A	3B	3C	3D	3E	3F	3G
CO1,CO2	Describe Oozhi Noi and discuss the synonyms, etiopathogenesis, premonitory symptoms, clinical features, types curable, incurable states and treatment regimen of Oozhi noi.	1	Lecture	CC	Knows-how	L&PPT ,L
CO1,CO2,CO3	Demonstrate the clinical features, types, Curable & Incurable states and Mukkuutra verupadu of Oozhi noi and perform the siddha clinical examinations through envagai thervu, other diagnostic tools and justify the diagnosis by discriminating with differential diagnosis.	2	Practical Training 16.4	PSY-GUD	Shows-how	PL,SIM
CO1,CO2,CO3 ,CO4,CO5,CO 6	Identify the clinical conditions of <i>Oozhi noi</i> and design a proper treatment protocol by analysing deranged humors and modern diagnostic tools and advice proper diet regulation, life style modification and also integrate the knowledge about recent advances through research papers and search for any National Health Programmes and Plan for further research scope by applying the knowledge gained from various classical siddha literatures and Journals.	2	Experiential-Learning 16.4	PSY-MEC	Does	D-BED,D A,CBL,L RI

Practical Training Activity

Practical Training 16.1 : Demonstration of Siddha clinical examination of *Erumal Iyanoi*, *Kasa Iyanoi*, *Swasam Iyanoi*, *Theebanam Iyanoi*, *Mantham Iyanoi*, *Vali Iyanoi*, *Azhal Iyanoi*,

Total duration of the activity is 6 Hrs.

I. Teacher demonstration of clinical examination (2 Hours)

II. Clinical examination by student (2 Hours)

1. Prepare the patient for clinical examination
2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.
3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.
4. Perform the Siddha examination for *Envagai thervu*, *7 Udal thaathukkal*, *Kanma Indriyam*, *Gnana Indriyam*, *Yaakkai ilakkanam*, derangements of humors under the instructor's direction
5. Perform the abdominal examination and check the vitals for BP and pulse
6. Perform CBC, stool test, stool culture, RFT and other lab diagnosis which ever necessary
7. Arrive at a proper diagnosis based on differential diagnosis, other examinations, clinical features and other parameters.
8. Formulate a personalized line of treatment based on altered humors and advise oil bath and appropriate internal medicine and advise diet regulation and life style modification.

III. Discussion and Assessment by teacher (2 Hours)

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 16.2 : Demonstration of Siddha clinical examination of *Mukkoottu Iyanoi*, *Sugasanni Iyanoi*, *Sura Iyanoi*, *Athisaara Iyanoi*, *Neerkovai Iyanoi*, *Anal Iyanoi*, *Bootham Iyanoi*,

Total duration of the activity is 6 Hrs.

I. Teacher demonstration of clinical examination (2 Hours)

II. Clinical examination by student (2 Hours)

1. Prepare the patient for clinical examination
2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.
3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.
4. Perform the Siddha examination for *Envagai thervu*, *7 Udal thaathukkal*, *Kanma Indriyam*, *Gnana Indriyam*, *Yaakkai ilakkanam*, derangements of humors under the instructor's direction
5. Perform the abdominal examination and check the vitals for BP and pulse
6. Perform CBC, stool test, stool culture, RFT and other lab diagnosis which ever necessary

7. Arrive at a proper diagnosis based on differential diagnosis, other examinations, clinical features and other parameters.
8. Formulate a personalized line of treatment based on altered humors and advise oil bath and appropriate internal medicine and advise diet regulation and life style modification.

III. Discussion and Assessment by teacher (2 Hours)

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 16.3 : Demonstration of Siddha clinical examination of *Muyalakan Iyanoi, Veri Iyanoi, Vigaaram Iyanoi, Suronitham Iyanoi, Viranam Iyanoi, Thurkantham Iyanoi, Nithiyam Iyanoi*.

Total duration of the activity is 6 Hrs.

I. Teacher demonstration of clinical examination (2 Hours)

II. Clinical examination by student (2 Hours)

1. Prepare the patient for clinical examination
2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.
3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.
4. Perform the Siddha examination for *Envagai thervu, 7 Udal thaathukkal, Kanma Indriyam, Gnana Indriyam, Yaakkai ilakkanam*, derangements of humors under the instructor's direction
5. Perform the abdominal examination and check the vitals for BP and pulse
6. Perform CBC, stool test, stool culture, RFT and other lab diagnosis which ever necessary
7. Arrive at a proper diagnosis based on differential diagnosis, other examinations, clinical features and other parameters.
8. Formulate a personalized line of treatment based on altered humors and advise oil bath and appropriate internal medicine and advise diet regulation and life style modification.

III. Discussion and Assessment by teacher (2 Hours)

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 16.4 : Siddha Clinical Demonstration and Diagnostic Differentiation of *Oozhi Noi*

Total duration of the activity is 2 Hrs.

I. Teacher demonstration of clinical examination (30 Minutes)

II. Clinical examination by student (1 Hour)

1. Prepare the patient for clinical examination
2. Greet the patient and introduce yourself and take consent from the patient explaining the procedure.
3. Stand on the right side of the patient and take history, complaints and duration, general examination to elicit the vitals.
4. Perform the Siddha examination for Envagai thervu, 7 Udal thaathukkal, Kanma Indriyam, Gnana Indriyam, Yaakkai ilakkanam, derangements of humors under the instructor's direction
5. Perform the abdominal examination and check the vitals for BP and pulse
6. Perform CBC, stool test, stool culture, RFT and other lab diagnosis which ever necessary
7. Arrive at a proper diagnosis based on differential diagnosis, other examinations, clinical features and other parameters.
8. Formulate a personalized line of treatment based on altered humors and advise oil bath and appropriate internal medicine and advise diet regulation and life style modification.

III. Discussion and Assessment by teacher (30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty.

Experiential learning Activity

Experiential-Learning 16.1 : Clinical protocol development and classification of *Erumal Iyanoi*, *Kasa Iyanoi*, *Swasam Iyanoi*, *Theebanam Iyanoi*, *Mantham Iyanoi*, *Vali Iyanoi*, *Azhai Iyanoi*.

Total duration of the activity is 8 Hrs.

1. Conduct clinical examination on 10 OPD/IPD patients, advice diet plans and lifestyle modifications. (2Hours)
2. Review of literatures related to the disease. (2 Hours)
3. Conducting seminars to UG students. (2 Hour)
4. Clinical discussion. (2 Hour)

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 16.2 : Clinical protocol development and classification of *Mukkoottu Iyanoi*, *Sugasanni Iyanoi*, *Sura Iyanoi*, *Athisaara Iyanoi*, *Neerkovai Iyanoi*,

Anal Iyanoi, Bootham Iyanoi.

Total duration of the activity is 8 Hrs.

1. Conduct clinical examination on 10 OPD/IPD patients, advice diet plans and lifestyle modifications. (2Hours)
2. Review of literatures related to the disease. (2 Hours)
3. Conducting seminars to UG students. (2 Hour)
4. Clinical discussion. (2 Hour)

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 16.3 : Clinical protocol development and classification of *Muyalakan Iyanoi, Veri Iyanoi, Vigaaram Iyanoi, Suronitham Iyanoi, Viranam Iyanoi, Thurkantham Iyanoi, Nithiyam Iyanoi.*

Total duration of the activity is 8 Hrs.

1. Conduct clinical examination on 10 OPD/IPD patients, advice diet plans and lifestyle modifications. (2Hours)
2. Review of literatures related to the disease. (2 Hours)
3. Conducting seminars to UG students. (2 Hour)
4. Clinical discussion with debate (2 Hour)

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 16.4 : Clinical Management and Research Framework for Oozhi Noi

Total duration of the activity is 2 Hrs.

1. Conduct clinical examination on OPD/IPD patient, advice diet plans and lifestyle modifications. (30 Minutes)
2. Conducting seminars to UG students. (1 Hour)
3. Clinical discussion related to appropriate choice of drug. (30 Minutes)

At the end of the activity, students should submit a report to the concerned faculty.

Modular Assessment

Assessment method	Hour
Conduct a structured Modular assessment. Assessment will be for 50 marks. Keep structured marking pattern. Use different assessment methods in each module for the semester. Keep record of the structured pattern used for assessment. Calculate the Modular grade point as per table 6 C. Class Presentation Assessment- 50 Marks The class presentation assessment and evaluation process for students is tailored to assess their ability to communicate complex medical concepts, apply clinical reasoning, and demonstrate professionalism on Iya diseases. Steps of Evaluation 1.Content--- 20 Marks Depth, accuracy, relevance, and application of medical knowledge. 2.Organization –10 Marks Logical structure (introduction, body, conclusion) 3.Delivery ---10 Marks Clarity, confidence, professional tone, and body language. 4.Visual Aids ---5 Marks Quality, design, and relevance of slides or props. 5.Audience Engagement----5 Marks Ability to answer questions, interacts with peers, and maintains attention or Any practical in converted form can be taken for assessment. (25 Marks) - 2 hours and Any of the experiential as portfolio/ reflections / presentations can be taken as assessment. (25 Marks) - 2 hours	4

Paper No : 3 Siddhar Maruthuvam with Applied Pharmacotherapeutics						
Semester No : 3						
Module 17 : Essentials of Traditional Siddha therapeutics						
Module Learning Objectives (At the end of the module, the students should be able to) Describe the components of Siddha therapeutics and features of Siddha manufacturing practices . Conduct group discussion and recitation in <i>Thirumanthiram</i> Identify the medicines and its practices and genomics study research papers and relate this with Yugi concepts.						
M 17 Unit 1 Introduction to Traditional Siddha practices 17.1.1. Definition & components of traditional siddha practices 17.1.2. Application of medicines related to <i>Suvai</i> - Types, <i>Migu kurai gunam</i>; <i>Veeriyam</i> - types; <i>Vibaagam</i>; <i>Mukuttram</i> - <i>Vali</i>, <i>Azhal</i>, <i>Iyam migu kurai gunam</i>, <i>Naadi nadai</i>; <i>Iympootham</i> - <i>Mann</i>, <i>Neer</i>, <i>Thee</i>, <i>Vaayu</i>, <i>Agaayam migu kurai gunam</i> 17.1.3.Ethno medicine. References: 1,2,4,7						
3A	3B	3C	3D	3E	3F	3G
CO1	Categorize medicines based on principles of <i>Suvai</i> , <i>Iympootham</i> , <i>Mukuttram</i> .	6	Practical Training 17.1	PSY-GUD	Shows-how	DIS,LS
CO1	Describe the traditional siddha practices and components of traditional siddha therapeutics	3	Lecture	CC	Knows-how	L_VC,L&PPT
CO1	Examine patient conditions, affected <i>Kuttram</i> and apply medicines related to <i>Suvai</i> , <i>Veeriyam</i> .	8	Experiential-Learning 17.	PSY-ADT	Does	DG,GBL,TBL

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M 17 Unit 2 Components of traditional Siddha therapeutics and Maruthuvam in Thirumanthiram comparison with genomic studies

17.2.1. *Maruthuva paadalgal* in *Thirumanthiram* 17.2.2. Single herbal medicines 17.2.3. Poly herbal medicines 17.2.4. Herbo mineral preparations 17.2.5. Classification of medicines according to *Arusuvai* 17.2.6. *Vali, Azhal, Iya, Mukkutra yaakkai nilaigal*.

References: 1,2,5,7,22,23,39,43

3A	3B	3C	3D	3E	3F	3G
CO1	Elaborate various plant and plant preparation used to treat patient and <i>Maruthuvam</i> in <i>Thirumanthiram</i>	3	Lecture	CAP	Knows-how	DG,L&P PT
CO1	Demonstrate the preparations of medicine according to patient constituents and recitation of <i>Maruthuvapaadalgal</i> in <i>Thirumanthiram</i>	6	Practical Training 17.2	PSY-MEC	Shows-how	REC,BS, DIS
CO1	Classify the single herbal preparation and polyherbal preparation and incorporate the <i>Maruthuvapaadal</i> in <i>Thirumanthiram</i> .	8	Experiential-Learning 17.2	AFT-VAL	Does	LS,TBL, D

M 17 Unit 3 Special features of Siddha manufacturing practices according to Yugi concept.

17.3.1. Classification of diseases according to *Yugi* 17.3.2. Classification of diseases according to *Agathiyar, Sarabenthirar, Theraiyar* and *Bogar* 17.3.3. Siddha manufacturing practices - Yugi's concept

References: 4,20,27,34,37,38,39,42,43,49,50,51,52,53,78,95,170,171

3A	3B	3C	3D	3E	3F	3G
CO1	Elaborate <i>Yugi</i> concept of siddha manufacturing practices.	4	Lecture	CAN	Knows-how	TUT,L&P PT

CO1	Formulate the medicine according to <i>Yugi</i> concepts	8	Practical Training 17.3	PSY-MEC	Shows-how	DIS,BS,LS
CO1	Combine <i>Yugi</i> concept in siddha therapeutics with other siddhar concepts	10	Experiential-Learning 17.3	PSY-ORG	Does	TPW,GBL,LS

Practical Training Activity

Practical Training 17.1 : Demonstrate medicines related to *Suvai, Iympootham, Mukkutram*.

Total duration: 6 hrs.

The approach will be explained by the faculty to the students and they are instructed to follow the same under their guidance.

Library session : (3 Hrs)

Students are directed to the library to refer the books based on the principles of *Suvai, Iympootham, Mukkutram* and thereafter for a class presentation.

Discussions: (3 hrs)

Students are divided into teams and are encouraged to engage in group discussion and share perspectives, debates solution and collectively analyse and categorise medicines based on principles of *Suvai, Iympootham, Mukkutram*.

Practical Training 17.2 : Demonstrate the preparations of medicine according to patient constituents and recitation of *Maruthuvapaadalgal* in *Thirumanthiram*

Total duration: 6 hrs

The approach will be explained by the faculty to the students and they are instructed to follow the same under their guidance

Brain storming: (2 hrs)

Students are divided into small groups and are encouraged to generate ideas freely focusing on the innovative approaches and promote open discussion which helps to explore multiple perspectives in the preparations of medicine according to patient constituents and recitation of *Maruthuvapaadalgal* in *Thirumanthiram*.

Discussion: (2 hrs)

Students are divided into small groups and are encouraged in group discussion and to share the perspectives, debates solution and collectively analyse the preparations of medicine according to patient constituents and recitation of *Maruthuvapaadalgal* in *Thirumanthiram*.

Recitation: (2 hrs)

Students are encouraged to recite and analyse the preparation of medicine of *Maruthuvapaadalgal* in *Thirumanthiram*.

Practical Training 17.3 : Construct the medicine according to *Yugi* concepts

Total duration : 8 hrs

The approach will be explained by the faculty to the students and they are instructed to follow the same under their guidance .

Brain storming:(3 hrs)

Students are made into small groups and are encouraged to generate ideas freely focusing on the innovative approaches and to promote open discussion which helps to explore multiple perspectives in the construction of medicine according to *Yugi* concepts.

Discussion:(3 hrs)

Students are divided into small groups to engage in group discussion and share the perspectives debate solution and collectively analyse and formulate the medicine according to *Yugi* concepts.

Library session:(2 hrs)

Students are encouraged to refer the articles ,journals from the library to understand the formulations of medicine according to yugi concept and thereafter for a class presentation.

Experiential learning Activity**Experiential-Learning 17.1** : Application of medicines based on *Suvai and Veeriyam*.

Total duration : 8 hrs

Team based learning: (3 hrs)

Prepare a report on "Journey into Siddha: Discovering the Art of Traditional Healing"

Students will be divided into groups ,each group should prepare a report about the imbalances of three humours and treatment based on *Suvai and Veeriyam*.

Game based learning: (3 Hrs)

The teacher will assign a minimum of 5 patients of different diseases to each student in the their respective OPD/IPD. Students should identify independently the imbalanced humour through signs and symptoms.

Based on their findings, students will propose suitable remedies, which includes herbs, metals, minerals, diet, medicines based on *Suvai and Veeriyam*.

Demonstration of garden: (2 hrs)

Students will be divided into groups. Each group will demonstrate about the medicinal herbs for the diseases depending upon the *Suvai and Veeriyam*

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 17.2 : Single herbal preparation and polyherbal preparation and incorporate the *Maruthuvapaadal* in *Thirumanthiram*.

Total duration : 8 hrs

Team based learning:(5 hrs)

Prepare a booklet on "The Art of Healing: Traditional Siddha Practices and *Thirumanthiram* .

Students will be divided into groups, each group should prepare an enlightening booklet that explores the symbiotic relationship between Traditional Siddha Practices and *Thirumanthiram*

Library session.(3 hrs)

Each group will summarize the key points from each source, highlighting connections between Traditional Siddha Practices and *Thirumanthiram*.

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 17.3 : *Yugi* and other siddhar concepts in siddha therapeutics

Total duration :10 hrs

Team project work: (3 Hrs)

Colloquy on "Balancing Nature and Tradition: Siddha Manufacturing Practices According to *Yugi*"

Students will be divided into groups. Each group will make a colloquy on Siddha Manufacturing Practices According to *Yugi* and also combining the concept with other Siddhars.

Game based learning (4 Hrs)

Students will be divided into groups. Each group will be asked to prepare and present a topic on *Yugi* concept in siddha therapeutics with other siddhar concepts

Library Session (3 Hrs)

Students are directed to library to refer books to understand the topics and thereafter for a class presentation.

At the end of the activity, students should submit a report to the concerned faculty.

Modular Assessment

Assessment method

Hour

Conduct a structured modular assessment. Assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per the table 6C

Provide medicines and assess the students activities step by step.

(50 marks)

- Whether the pg scholar identifies *suvai*, *veeriam*, *iyombootham* in medicine. (10 marks)
- Whether the pg scholar knows purification of siddha drugs. (10 marks)
- Recitation of *maruthuva padalgal* in *thirumanthiram*. (20 marks)
- whether the pg scholar prepare the medicine according to patient constituents. (10 marks)

or

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Any practical in converted form can be taken for assessment. (25 marks)

and

Any of the experiential as portfolio/reflections/presentations can be taken as an assessment. (25 Marks)

Module 18 : Basic concepts of Siddha therapeutics

Module Learning Objectives

(At the end of the module, the students should be able to)

Describe the basic principles of siddha therapeutics and *Iympootha* theory.

Conduct clinical examination to find relationship between *Iympootham*, *Mukkutram* and *Arusuvaigal*.

Identify the medicine related to between *Iympootham*, *Mukkutram* and *Arusuvaigal*.

M 18 Unit 1 Basic principles and practices of Siddha therapeutics

18.1.1.*Iympootha pancheekaranam* 18.1.2.Relation between *Iympootham*, *Mukkutram* and *Arusuvaigal* 18.1.3.*Sadhaga naadi paadalgal* 18.1.4.Medicine selection according to *Naadi nadai*

References: 1,2,7,46

3A	3B	3C	3D	3E	3F	3G
CO1	Elaborate <i>Suvai</i> , <i>Iympootham</i> , <i>Mukkutram</i> .	3	Lecture	CAN	Knows-how	TUT,L&P PT
CO1	Identify medicines based on taste for imbalanced humors.	6	Practical Training 18.1	PSY-GUD	Shows-how	LS,CBL,J C
CO1	Select <i>Mukkutram</i> imbalanced patients and apply selected medicines based on their taste , <i>Mukkutram</i> .	8	Experiential-Learning 18.	PSY-MEC	Does	RLE,CBL ,DA

			1			
M 18 Unit 2 Iympootha theory and its description 18.2.1. <i>Iympootha thathuvam</i> according to various concepts 18.2.2. Classification of drugs according to <i>Iympootha thathuvam</i> in Siddha literatures. References: 1,2,46						
3A	3B	3C	3D	3E	3F	3G
CO1	Define <i>Iympootha</i> theory according to various Siddhars	3	Lecture	CK	Knows-how	TUT,L&PPT
CO1	Design a protocol of medicines according to <i>Iympootha</i> theory.	6	Practical Training 18.2	PSY-MEC	Shows-how	LS,DA,DIS
CO1	Select the diseased patients according to <i>Migu,kuraigunam</i> of <i>Iympootham</i> and apply medicine.	8	Experiential-Learning 18.2	PSY-ORG	Does	D-BED,CBL,BS
M 18 Unit 3 Triad of Iympootham, Mukkutram and Aru suvaigal 18.3.1. Effects of deranged <i>Iympootham</i> in <i>Mukkutram</i> 18.3.2. Constituents of <i>Iympootham</i> in <i>Inippu suvai</i> 18.3.3. Constituents of <i>Iympootham</i> in <i>Pulippu suvai</i> 18.3.4. Constituents of <i>Iympootham</i> in <i>Uppu suvai</i> 18.3.5. Constituents of <i>Iympootham</i> in <i>Kaippu suvai</i> 18.3.6. Constituents of <i>Iympootham</i> in <i>Kaarppu suvai</i> 18.3.7. Constituents of <i>Iympootham</i> in <i>Thubarppu suvai</i> 18.3.8. Relationship between <i>Iympootham</i> , <i>Mukkutram</i> and <i>Arusuvaigal</i> References: 1,2,46						
3A	3B	3C	3D	3E	3F	3G
CO1	Elaborate and document the relationship between <i>Iympootham</i> , <i>Mukkutram</i> and <i>Aru suvaigal</i> .	4	Lecture	CAN	Knows-how	D,L&PPT
CO1	Identify and document the deranged <i>Iympootham</i> , <i>Mukkutram</i> and <i>Aru suvaigal</i> .	8	Practical	PSY-SET	Shows-	JC,DIS,P

			Training 18.3		how	BL
CO1	Select medicines according to the <i>Mukkuṭra nīlai</i> of patients and record it.	10	Experiential-Learning 18.3	AFT-VAL	Does	PSM,CD

Practical Training Activity

Practical Training 18.1 : Identify medicines based on taste for imbalanced humors.

Total duration: 6 hrs

Case-based learning : (2 hrs)

Students work in small groups to analyze the clinical case and assess the patient history, symptoms, formulate diagnosis and suggest treatment plan based on taste for imbalanced humors. This type of learning bridge theoretical knowledge with practical application.

Visual Journey on "Foundations of Siddha Therapeutics: An Interactive Learning Journey"

Library session (2 hrs)

Students are directed to library to refer books to understand the topics and thereafter for a class presentation.

Journal club: (2 hrs)

Students are encouraged to collect details of medicine from texts based on taste for imbalanced humors and also collect supportive articles from journals.

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 18.2 : Design medicines according to *Iympootha* theory.

Total duration : 6 hrs.

The approach will be explained by the faculty to the students and they are instructed to follow the same under their guidance.

Library session (2hrs)

Students are directed to library to refer books to understand the topics and thereafter for a class presentation.

Discussion: (2 hrs)

Students are divided into small groups and are encouraged to engage in group discussion and share perspectives, debates, solution and collectively analyze and design a protocol of medicines according to *Iympootha* theory.

Drug analysis: (2 hrs)

Students are encouraged to analyse drug according to *Iympootha* theory.

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 18.3 : Identify the deranged *Iympootham*, *Mukkutram* and *Aru suvaigal*.

Total duration: 8 hrs

Journal club: (2hrs)

Students are encouraged to analyse different journals to arrive at an innovative insight a Collaborative Session on the Triad of *Iympootham*, *Mukkutram*, and *Aru Suvaigal*".

Discussions: (3 hrs)

Students are encouraged to discuss the spotters on-

Spotters on *Iympootha* theory: Students are encouraged to identify the *Iympootha* theory from the given spotters.

Spotters on *Aru suvaigal*: Students are encouraged to identify the *Aru suvaigal* from the given spotters.

Problem-based learning: (3hrs)

it is an instructional method where students learn by solving real world problems. This approach encourages active participation, team-work and application of knowledge making learning more relevant and engaging in identifying the deranged *Iympootham*, *Mukkutram* and *Aru suvaigal*.

At the end of the activity, students should submit a report to the concerned faculty.

Experiential learning Activity

Experiential-Learning 18.1 : Medicines based on their taste

Total duration : 8 hrs

Real-life experience

Prepare a Podcast on "Siddha Chronicles: Stories from the Healers" (2 hrs)

Students will be divided into groups. Each group should prepare a podcast on exploring medicines based on taste for imbalanced *Mukkutram*

Case based learning (4 Hrs)

Students will be divided into groups. Each group will observe the *Mukkutram* imbalanced patients, note down the signs & symptoms and apply selected medicines based on their taste

Drug analysis: (2 hrs)

Students are encouraged to analyse the drugs based on taste.

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 18.2 : *Migu,kuraigunam* of *Iympootham* and application of medicine.

Total duration :8 hrs

Brain storming:(2 hrs) Students are encouraged to generate freely focusing on innovative approaches and create video and audio clips related to <i>Iympootham</i> and its expansion with the intervention of AI,Ar, VR Case-based learning: (3 hrs) Students will be divided into groups. Each group will select a minimum of 5 patients in their OPD/IPD. The students should evaluate the <i>Migu,kuraigunam</i> of <i>Iympootham</i> through signs and symptoms in the patients. Bed-side demonstration : (3 hrs) Students typically involves a structured approach to evaluating a patients's clinical presentation, Students should identify the antagonistic quality to balance the <i>Migu,kuraigunam</i> of <i>Iympootham</i>. Students should recommend herbs, metals, minerals, medicines, food having antagonistic qualities which balances the <i>Migu,kuraigunam</i> of <i>Iympootham</i>. At the end of the activity, students should submit a report to the concerned faculty.	
Experiential-Learning 18.3 : Mukkutra nilai assesment	
Total duration :10 hrs Problem-solving method: (4 hrs) Students are encoraged to asses the mukkutra nilai by creating 3D models. Students will be divided into groups. Each group should create 3D models on <i>Mukkutra nilai</i> of patients Case-diagnosis: Students will be divided into groups.Each group will select a minimum of 10 patients in their OPD/IPD. Each group will observe <i>Mukkutra nilai</i> of patients, note down the signs & symptoms and Select medicines according to <i>Mukkutra nilai</i> mentioned in <i>Siddha</i> literature. (6 Hrs) At the end of the activity, students should submit a report to the concerned faculty.	
Modular Assessment	
Assessment method	Hour
Conduct a structured modular assessment. Assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point asper the table 6C Assess scholars skill in basic principles of siddha therapeutics. (50 Marks) • Recitation of <i>padalgal</i> related to humoral imbalance.(10 Marks) • Recitation of <i>padalgal</i> on <i>arusuvaigal</i> (10 Marks) • Recitation of <i>padalgal</i> related to <i>iympootha</i> theroy.(10 Marks)	4

- Assess the skill of the pg scholar in choosing correct medicines according to basic concept. (10 Marks)
- Assess the pg scholars skill about the triad of *iympootham*, *mukkutram* and *arusuvaigal*. (10 Marks)

or

Any practical in converted form can be taken for assessment. (25 marks)

and

Any of the experiential as portfolio/reflections/presentations can be taken as an assessment. (25 Marks)

Semester No : 4

Module 19 : Types of Internal medicines and its description

Module Learning Objectives

(At the end of the module, the students should be able to)

Describe the internal medicines as per *Theraiyar* and shelf life of internal medicines.

Conduct detailed study about the application of herbal, poly herbal and herbomineral internal medicines.

Identify the various administration modes of internal medicine.

M 19 Unit 1 List of internal medicines as per Theraiyar, Agathiyar, Bogar

19.1.1.32 types of Internal medicines *Chaaruvu*, *Surasam*, *Kudineer*, *Utkali*, *Adai*

19.1.2. *Theraiyar*

19.1.3. *Agathiyar*

19.1.4. *Bogar*

19.1.5. Comparative analysis of different school of thoughts of above Siddhars.

References: 1,2,20,37,38,42,46,47,48,49,50,51,52,53,95

3A	3B	3C	3D	3E	3F	3G
CO4	Elaborate 32 types of Internal medicines.	3	Lecture	CAN	Knows-how	L&PPT, TUT
CO4	Prepare list of medicines as said by <i>Theraiyar, Agathiyar, Bogar</i> .	6	Practical Training 19.1	PSY-MEC	Shows-how	DIS,W,L S,BS,D
CO4	Differentiate the medicines according to patients <i>Mukkuaranilai</i>	8	Experiential-Learning 19.1	PSY-ORG	Does	CBL,TP W,BS

M 19 Unit 2 Status, Stability and Shelf life of Internal medicines, Administration modes of internal medicine

19.2.1. Physical characteristics of internal medicines. 19.2.2. Assessment of shelf life of various internal medicines. 19.2.3. Different modes of administration of internal medicines. 19.2.4. Retro analysis of internal medicines as per literatures.

References: 2,5,23,46,47,48

3A	3B	3C	3D	3E	3F	3G
CO4	Illustrate the Status, shelf life of 32 Internal medicines.	3	Lecture	CAN	Knows-how	TUT,L&P PT
CO4	Identify a List of review research articles related to status, stability of 32 internal medicines.	6	Practical Training 19.2	PSY-SET	Shows-how	DIS,W,D, LS
CO4	Design case studies related to various administration modes of internal medicine and check how to change the status of medicine	8	Experiential-Learning 19.2	PSY-ORG	Does	GBL,BS, TBL

M 19 Unit 3 Comparative analysis of Siddha Medicines according to Anuboga vaidhiya navaneetham and Noigalukku Siddha parigaram, Agathiyar paripooranam (Herbal, Polyherbal, Herbo mineral preparations)

19.3.1. Different components of preparing medicines according to above texts. Single herbs - Combination of Herbs - Herbals along with minerals and animal origin
 19.3.2. Comparative analysis and selection of drugs according to imbalance of *Mukkutram*

References: 1,2,5,20,21,22,23,46,47,48

3A	3B	3C	3D	3E	3F	3G
CO4	Elaborate various herbal, herbo-mineral and poly herbal medicines	4	Lecture	CAP	Knows-how	L&PPT, TUT
CO4	Formulate traditional preparation with the combination of herbs, polyherbal and herbo-mineral	8	Practical Training 19.3	PSY-MEC	Shows-how	SDL, LS, D
CO4	Prepare various preparation of herbal, polyherbal, herbo-mineral and their article reviews and plan for further research scope.	10	Experiential-Learning 19.3	PSY-ORG	Does	LS, TPW

Practical Training Activity

Practical Training 19.1 : Prepare list of medicines as said by *Theraiyar, Agathiyar, Bogar*.

Total duration: 6 hrs

Brainstorming: (2 hrs)

Students are formed into small groups and are encouraged to generate ideas freely focusing on innovative approaches and to promote open discussion which helps to explore multiple perspectives in preparing the list of medicines as said by *Theraiyar, Agathiyar, Bogar*.

Discussion: (1 hr)

Students are encouraged to have open discussion about the spotters.

Spotters: Students are encouraged to identify the 32 internal medicines from the spotters.

Library session: (1 hr)

Students are directed to library to refer books to understand the topics and thereafter for a class presentation.

Demonstration: (1 hr)

Students are encouraged to demonstrate about the scenario of the prepared list of medicines as said by *Theraiyar, Agathiyar, Bogar*.

Workshop: (1 hr)

Students are encouraged to conduct a workshop on the prepared list of medicines as said by *Theraiyar, Agathiyar, Bogar*.

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 19.2 : Review research articles related to status, stability of 32 internal medicines.

Total duration: 6 hrs

Work shop (2 hrs)

Students are encouraged to conduct a workshop on research articles related to status, stability of 32 internal medicines.

Library session (1 hr)

Students are directed to library to refer books to understand the topics and thereafter for a class presentation

Demonstration (2 hrs)

Students are encouraged to demonstrate research articles related to status, stability of 32 internal medicines.

Discussion: (1 hr)

Students are encouraged to create 3D visuals related to status, stability of 32 internal medicines and have open discussion to share the perspectives and collectively analyse the topic.

At the end of the activity, students should submit a report to the concerned faculty

Practical Training 19.3 : Traditional preparation with the combination of herbs, polyherbal and herbo-mineral

Total duration: 8 hrs

Demonstration: (3 hrs)

Students are encouraged to analyse and demonstrate their ideas freely on the spotters

Spotters

Students are encouraged to identify the traditional preparation with the combination of herbs, polyherbal and herbo-mineral from the spotters.

Library session: (2 hrs)

Students are directed to library to refer books to understand the topics and thereafter for a class presentation.

Self-directed learning: (3 hrs)

Students are encouraged to self demonstrate Traditional preparation with the combination of herbs, polyherbal and herbo-mineral.

At the end of the activity, students should submit a report to the concerned faculty.

Experiential learning Activity

Experiential-Learning 19.1 : Medicines according to *Mukkuṭranilāi*

Total duration : 8 hrs

Case-based learning: (3 hrs)

Students will be divided into groups. Each group will select a minimum of 10 patients in their OPD/IPD. The students should evaluate the characteristics/qualities of *Vali*, *Azhal* and *Iyam* through signs and symptoms in the patients.

Brainstorming: (2 hrs)

Students should identify the antagonistic quality to balance the thrived *Vali*, *Azhal* and *Iyam*. Students should recommend herbs, metals, minerals, medicines, food having antagonistic qualities which balances the imbalanced *Vali*, *Azhal* and *Iyam*. Each student will present their findings to the concerned faculty for evaluation and conclusion.

Team project work: (3 hrs)

Students will be divided into groups. Each group should Arrange the medicines according to patients *MukkuTRANILAI*

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 19.2 : Administration modes of internal medicine

Total duration: 8 hrs

Brainstorming: (3 hrs)

Prepare an assignment on “Investigating the Lifecycle of Internal Medicines: Assessing Current Status, Stability Influences, and Administration Methods”

Team-based learning: (3 hrs)

Students will be divided into groups and each group will be assigned a minimum of six types of *Siddha* medicines.

Each group will analyse the selected medicines with respect to clinical indications and primary organ or physiological system on which they exert their effects.

Following this, each group will correlate various administration modes of internal medicine and check how to change the status of medicine using available scientific literature and pharmacological evidences.

Game-based learning: (2 hrs)

Innovative educational approach that incorporates game elements into the learning process to enhance engagement motivation and retention of medical knowledge regarding the Administration modes of internal medicine

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 19.3 : Perbal, polyherbal and herbo-mineral preparations - Literature review

Total duration: 10 hrs

Practical: (4 hrs)

Prepare a podcast on "Herbal Chemistry: Creating Siddha Combinations for Common Ailments"

Students will be divided into groups and each group will be assigned to prepare a podcast on Creating Siddha combinations for Common Ailments

Team project work: (4 hrs)

Students will be divided into groups and each group will be assigned to collect and prepare various article reviews based on herbal, polyherbal and herbo mineral

preparations.

Library session: (2 hrs)

Students will be directed to library and document the herbal, polyherbal and herbo-mineral preparations separately

At the end of the activity, students should submit a report to the concerned faculty.

Modular Assessment

Assessment method	Hour
Conduct a structured modular assessment. Assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per the table 6C Assess the pg scholar's skill about internal medicine in Siddha. (50 Marks) • Recitation of <i>padalgal</i> about the shelf life of internal medicines. (10 marks) • Assess the pg scholar's skill about list of review research articles related to status, stability of 32 internal medicines. (10 marks) • Assess the pg scholar's knowledge about traditional preparation of herbo mineral combination (10 marks) • Assess the pg scholar's knowledge about list of internal medicines by various siddhars. (20 marks) or Any practical in converted form can be taken for assessment. (25 marks) and Any of the experiential as portfolio/reflections/presentations can be taken as an assessment. (25 Marks)	4

Module 20 : Biotransformation of Siddha Medicines

Module Learning Objectives

(At the end of the module, the students should be able to)

Describe the concepts on bio-transformation of siddha medicine in 7- *Udal thaathukal* (7 Physical Constituents).

Conduct the clinical examination to assess *Migu, kuraigunam* (Increased and Decreased features) of 7- *Udal thaathukal* (7 Physical Constituents).

Identify the biotransformation of medicines and experience the changes in 7- *Udal thaathukal* (7 Physical Constituents).

M 20 Unit 1 Basic concepts of ezhu udalkattukkal (7 Physical Constituents) and its role and Biotransformation on Udalkattugal

20.1.1. Concepts of 7 *Udal thaathukal* (7 Physical Constituents) 20.1.2. *Saaram* (Nutrient juice) 20.1.3. *Senneer* (Blood) 20.1.4. *Oon* (Muscle) 20.1.5. *Kozhuppu* (Fat and Adipose tissue) 20.1.6. *Enbu* (Bone and Teeth) 20.1.7. *Moolai* (Bone Marrow and Nervous tissue) 20.1.8. *Sukkilam/Suronitham* (Semen / Ovum) 20.1.9. Imbalance of 7 *Udal thaathukal* (7 Physical Constituents) and its reflection

References: 1,2,46

3A	3B	3C	3D	3E	3F	3G
CO1	Describe the concepts of 7 <i>Udal thathukkal</i> and explain Biotransformation of medicine on 7 <i>Udal thaathukkal</i> .	3	Lecture	CAN	Knows-how	L&PPT
CO1	Identify the role of 7 <i>Udal thathukkal</i> .	6	Practical Training 20.1	PSY-SET	Shows-how	PL,BS,DIS
CO1	Evaluate the Clinical concepts of affected <i>Udal thathukkal</i> in patients.	8	Experiential-Learning 20.1	PSY-GUD	Does	DIS,D-BED,GBL

M 20 Unit 2 Saaram (Nutrient juice), Senneer (Blood) and Oon (Muscle).

20.2.1. *Saaram* (Nutrient juice) *migu* and *kurai gunam* (Increased and Decreased features) 20.2.2. *Senneer* (Blood) *migu* and *kurai gunam* (Increased and Decreased features) 20.2.3. *Oon* (Muscle) *migu* and *kurai gunam* (Increased and Decreased features) 20.2.4. *Siddhar seer sei maruthuvam* for deranged *Saaram* (Nutrient juice), *Senneer* (Blood) and *Oon* (Muscle)

References: 1,2,45,46

3A	3B	3C	3D	3E	3F	3G
CO1	Describe the basic concepts of <i>Saaram</i> , <i>Senneer</i> and <i>Oon</i> .	3	Lecture	CAN	Knows-how	L&PPT ,TUT

CO1	Identify the <i>Migu, Kuraigunam</i> of <i>Saaram, Senneer and Oon</i> .	6	Practical Training 20.2	PSY-SET	Shows-how	D-BED,DIS,LS,TPW
CO1	Differentiate <i>Migu, kuraigunam</i> based on diagnosis and treatment.	8	Experiential-Learning 20.2	AFT-VAL	Does	D,PER

M 20 Unit 3 Kozhuppu (Fat and Adipose tissue), Enbu (Bone and Teeth), Moolai (Bone Marrow and Nervous tissue), Sukkilam/ Suronitham (Semen / Ovum).

20.3.1. *Kozhuppu* (Fat and Adipose tissue) *Migu* and *kurai gunam* (Increased and Decreased features) 20.3.2. *Enbu* (Bone and Teeth) *Migu* and *kurai gunam* (Increased and Decreased features) 20.3.3. *Moolai* (Bone Marrow and Nervous tissue) *Migu* and *kurai gunam* (Increased and Decreased features) 20.3.4. *Sukkilam/Suronitham* (Semen / Ovum) *Migu* and *kurai gunam* (Increased and Decreased features) 20.3.5. *Siddhar seer sei maruthuvam* for deranged *Kozhuppu* (Fat and Adipose tissue) , *Enbu* (Bone and Teeth), *Moolai* (Bone Marrow and Nervous tissue), *Sukkilam/ Suronitham* (Semen / Ovum).

References: 1,2,6,44,45,46

3A	3B	3C	3D	3E	3F	3G
CO1	Elaborate the concepts of <i>Kozhuppu, Enbu, Moolai</i> and <i>Sukkilam/ Suronitham</i> .	4	Lecture	CC	Knows-how	TUT,L&PPT
CO1	Identify the <i>Migu,kuraigunam</i> of <i>Kozhuppu, Enbu, Moolai</i> and <i>Sukkilam/ Suronitham</i> .	8	Practical Training 20.3	PSY-SET	Shows-how	TPW,CBL,LS,DIS
CO1	Design case studies on biotransformation of siddha medicines.	10	Experiential-Learning 20.3	PSY-ORG	Does	D,PER,RP

Practical Training Activity

Practical Training 20.1 : Role of 7 *Udal thathukkal*.

Total duration: 6 hrs

Brainstorming: (2 hrs)

Students are encouraged to have "Field Exploration of Biotransformation and Udal thathukkal Concepts"

Discussion: (2 hrs)

Students are divided into teams and are encouraged to discuss about the role of 7 *Udal thathukkal*.

Peer-learning: (2 hrs)

Students are encouraged to form small groups and to create 3D models for Role of 7 *Udal thathukkal* and explore with members contributing the unique insights crucial for medical practice

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 20.2 : *Migu, Kuraigunam of Saaram, Senneer and Oon.*

Total duration: 6 hrs

Discussion: (1 hr)

Students are encouraged to analyse the topic and have open discussion on "Delving into *Saaram, Senneer, and Oon*: Understanding Fundamental Concepts of Siddha Medicine"

Team project work: (2 hrs)

Students are divided into teams and encouraged to involve in discussion on "Delving into *Saaram, Senneer, and Oon*: Understanding Fundamental Concepts of Siddha Medicine"

Demonstration bedside: (2 hrs)

Students should independently identify the *Migu, Kuraigunam of Saaram, Senneer and Oon* along with the corresponding disturbed humour through clinical assessment and treatment for atleast 10 patients.

Library session: (1 hr)

Students are directed to library to refer books to understand the topics and thereafter for a class presentation.

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 20.3 : Identify the *Migu,kuraigunam of Kozhuppu, Enbu, Moolai and Sukkilam/ Suronitham*.

Total duration: 8 hrs

Case-based learning: (2 hrs)

Students are encouraged to have a case study session on "Exploring the Therapeutic Applications of *Kozhuppu, Enbu, Moolai and Sukkilam/ Suronitham*'

Discussion: (2 hrs)

Students are encouraged to create 3D visual models on "Exploring the Therapeutic Applications of *Kozhuppu, Enbu, Moolai and Sukkilam/ Suronitham*' and have open

discussion.

Team project work: (2 hrs)

Students are divided into teams and are encouraged to discuss on *Migu,kuraigunam of Kozhuppu, Enbu, Moolai and Sukkilam/ Suronitham*.

Library session: (2 hrs)

Students are directed to library to refer books to understand the topics and thereafter for a class presentation.

At the end of the activity, students should submit a report to the concerned faculty.

Experiential learning Activity

Experiential-Learning 20.1 : *Udal thathukkal*

Total duration of the activity 8 hrs

Game-based learning: (3 hrs)

E-quiz on "Biotransformation and Udal thathukkal in Siddha Medicine"

An e-quiz will be create in Google forms by the faculty.

Each PG Scholar should individually attend the quiz on their mobile or laptops and submit their responses without fail.

Discussion: (2 hrs)

Each student should individually create the audio clips about the clinical concepts of affected *Udal thathukkal* in patients and discuss with the peers.

Demonstration bedside: (3 hrs)

Students should independently identify the affected *udal thathu* along with the corresponding disturbed humour through clinical assessment and treatment for atleast 10 patients.

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 20.2 : *Saaram, Senneer, and Oon*

Total duration: 8 hrs

Demonstration: (4 hrs)

Students are encouraged to discuss and demonstrate about the conceptual Map: Interconnections of *Saaram, Senneer, and Oon*" (8 hrs)

Students will be divided into groups. Each group will develop a conceptual map about the *Saaram, Senneer, and Oon*

Presentation: (4 hrs)

Students are instructed to prepare a presentation which includes introduction, interrelationship between *Saaram, Senneer, and Oon*

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 20.3 : Biotransformation of siddha medicines.

Total duration: 10 hrs
 Presentation: (4 hrs)
 Biotransformation process: An Oral Presentation on Therapeutics (4 hrs)
 Students will be divided into groups. Students should give an oral presentation about the biotransformation of Siddha medicines
 Roleplay (3 hrs)
 Students will be divided into groups. Each group should make a roleplay on biotransformation of Siddha medicines
 Demonstration (3 hrs)
 Students are encouraged individually to demonstrate the process of biotransformation according to Siddha literature
 At the end of the activity, students should submit a report to the concerned faculty.

Modular Assessment

Assessment method	Hour
Conduct a structured modular assessment. Assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per the table 6C Assess the pg scholar's knowledge about biotransformation of siddha medicines. (50 marks) • MCQ about biotransformation of Siddha Medicines. (10 x 1 = 10 marks) • Topic presentation about biotransformation of Siddha Medicine. (20 marks) • Assess the knowledge about <i>migu</i> and <i>kurai gunam</i> (Increased and Decreased features) of 7 <i>udal thathukkal</i> (7 Physical Constituents). (20 marks) or Any practical in converted form can be taken for assessment. (25 marks) and Any of the experiential as portfolio/reflections/presentations can be taken as an assessment. (25 Marks)	4

Semester No : 5

Module 21 : Essentials of Peru marunthugal (Siddha Higher order Medicines and Vallathy Maruthuvam)

Module Learning Objectives

(At the end of the module, the students should be able to)

Describe the *Peru Marunthugal* (Higher order medicines) in siddha and its various concept based utilisation.
 Conduct the clinical examination of *Peru Marunthugal* (Higher order medicines) and *Vallathymaruthuvam* in debilitating diseases.
 Identify various debilitating illness and experience to treat with *Peru Marunthugal* (Higher order medicines) and *Vallathymaruthuvam*.

M 21 Unit 1 List of Peru Marunthugal (Higher order medicines) as per Theraiyar, Agathiyar, Bogar

21.1.1. Classification of *Peru Marunthugal* (Higher order medicines) 21.1.2. Long durable higher proficiency nano medicines like *Kattu*, *Kalangu*, *Pathangam* etc.
 21.1.3. *Pachai vettu maruthuvam* 21.1.4. Comparison between *Pachai vettu maruthuvam* and chemotherapy

References: 1,2,5,6,15,17,18,19,20,21,22,23,24,25,33,34,37,38,39,47,48,49

3A	3B	3C	3D	3E	3F	3G
CO4	Describe the various list of higher order medicines as per <i>Theraiyar</i> , <i>Agathiyar</i> , <i>Bogar</i>	3	Lecture	CAN	Knows-how	L&PPT
CO4	Identify and enlist the higher order medicines according to <i>Iympootha</i> theory in <i>Siddha Maruthuvam</i> .	6	Practical Training 21.1	PSY-SET	Shows-how	PER,D,L S
CO4	Illustrate the importance of <i>Iympootha</i> theory in higher order medicines.	8	Experiential-Learning 21.1	AFT-SET	Does	TPW,PER

M 21 Unit 2 Traditional concepts, Practices of Peru Marunthugal (Higher order medicines) and Utility of higher order medicine in debilitating illness

21.2.1. Practice and precaution of utility of *Peru Marunthugal* (higher order medicines) in clinical practice 21.2.2. Concepts of *Udal thathukkal* (7 Physical constituents) in debilitating illness. 21.2.3. *Siddhar seer sei maruthuvam* on debilitating illness.

References: 1,2,5,6,7,10,13,15,18,19,21,22,23,24,34,35,39,47,49

3A	3B	3C	3D	3E	3F	3G
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CO4	Describe the concepts and practices of higher order medicines and utility of those in debilitating illness.	3	Lecture	CAN	Knows-how	PL,L_VC, L&PPT
CO4	Identify the traditional concepts of higher order medicines in debilitating diseases like <i>Madhumegam</i> and <i>Vippurudhi</i> .	6	Practical Training 21.2	PSY-SET	Shows-how	D,CBL,LS
CO4	Integrate the traditional knowledge of various <i>Siddha vaidhiyargal</i> on higher order medicines.	8	Experiential-Learning 21.2	AFT-SET	Does	PL,SY

M 21 Unit 3 Vallathy maruthuvam

21.3.1. *Vallathy maruthuvam* - concepts of potency , characters of Vallathy. 21.3.2. *Vallathy* medicines in clinical practice. 21.3.3. Dietary regulations of *Vallathy maruthuvam*. 21.3.4. *Vallathy maruthuvam* for *vippuruthi noi*

References: 2,5,17,21,22,25,33,34,37,39,47,48

3A	3B	3C	3D	3E	3F	3G
CO4	Elaborate various preparation of <i>Serankottai</i> from various texts (<i>Kannusaamy parambarai vaithiyam, Anubogavaithiya dhevaragasiyam, Agathiyar vallathy</i>)	4	Lecture	CC	Knows-how	TUT,L&PPT
CO4	Identify the conditions cured by preparations containing <i>Serankottai</i> .	8	Practical Training 21.3	PSY-MEC	Shows-how	LS,CBL,TPW
CO4	Differentiate and justify the <i>Mukkutranilai</i> of patients which is cured by <i>Serankottai</i> .	10	Experiential-Learning 21.3	AFT-VAL	Does	GBL,CBL

Practical Training Activity

Practical Training 21.1 : Higher order medicines according to *Iympootha* theory in *Siddha Maruthuvam*.

Total duration: 6 hours

Demonstration: (2 hrs)

Students are encouraged to analyse and demonstrate the interactive Forum on "Siddha Insights: Engaging Discussions on Higher Order Medicines" Library session:(2 hrs) Students are directed to library to refer books to understand the topics and thereafter for a class presentation. Presentation:(2 hrs) Students are encouraged to discuss and explore about Higher order medicines according to <i>Iympootha</i> theory in <i>Siddha Maruthuvam</i> and <i>present the concepts on the topic</i>. At the end of the activity, students should submit a report to the concerned faculty.
Practical Training 21.2 : Higher order medicines for <i>Madhumegam</i> and <i>Vippurudhi</i>.
Total duration: 6 hrs Case based learning:(2 hrs) Students work in small group to analyse the clinical cases, formulate diagnosis and suggest treatment plan based on the traditional concepts of higher order medicines. Library session:(2 hrs) Students are directed to library to refer books to understand the topics and thereafter for a class presentation. Demonstration:(2 hrs) Students are encouraged to demonstrate Higher order medicines for <i>Madhumegam</i> and <i>Vippurudhi</i>. At the end of the activity, students should submit a report to the concerned faculty.
Practical Training 21.3 : The conditions cured by preparations containing <i>Serankottai</i>.
Total duration: 8 hrs Team project work: (3 hrs) Students are divided into teams to have group discussion and prepare videos on various preparations containing <i>Serankottai</i> Video Demonstrations on "<i>Vallathy Maruthuvam</i> Unveiled: Engaging Demonstrations of Traditional Healing Techniques Library session: (2 hrs) Students are directed to library to refer books to understand the topics and thereafter for a class presentation. Case-based learning: (3 hrs) Students assess patient history, symptoms, formulate diagnosis and suggest treatment plans using preparations containing <i>Serankottai</i>. At the end of the activity, students should submit a report to the concerned faculty.
Experiential learning Activity
Experiential-Learning 21.1 : <i>Iympootha</i> theory in higher order medicines.

Total duration: 8 hrs

Presentation:(4hrs)

Poster Presentation on "Unveiling Higher Order Medicines: Insights from *Theraiyar*, *Agathiyar*, and *Bogar*"

Students are divided into three groups .

The first group should make posters about the Higher order medicines according to *Theraiyar*.

The second group should make posters about the Higher order medicines according to *Agathiyar*.

The third group should make posters about the Higher order medicines according to *Bogar*.

Team project work: (4hrs)

PG Scholars divided into groups .

Each group assigned to collect the Higher order medicines in various *Siddha* literatures and integrates the importance of *Iympootha* theory in those medicines.

Each group should prepare the list of higher order medicines in various *Siddha* literatures and arrange them based on shelf life.

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 21.2 : Traditional knowledge of various *Siddha vaidhiyargal*

Total duration: 8 hrs

Symposium (4 Hrs)

Organize a *symposium* for the students by inviting Traditional *Siddha vaidhiyargal*.

The students should gather and prepare the list of higher order medicines based on the traditional knowledge of *various Siddha vaidhiyargal* .

Peer learning:(4 hrs)

Text book review on "Harnessing Tradition: The Role of Higher Order Medicines in addressing Debilitating Illnesses"

Students will be divided into groups. Each group should report on the Role of Higher Order Medicines in Addressing Debilitating Illnesses and explore with members contributing their unique insights.

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 21.3 : *Serankottai* containing medicines

Total duration: 10 hrs

Game-based learning: (4 hrs)

Students are encouraged to gain innovative educational approach that incorporates game elements into the learning process to enhance engagement, motivation and retention of medical knowledge and skills.

"*Vallathy Maruthuvam* Quiz: Discover the Secrets of Traditional Healing!"

Students will be divided into groups.

Quiz should be conducted in those groups about the *Serankottai* containing medicines

Case based learning (6 hrs)

Students will be divided into groups.

Each group will observe 10 patients, note down the signs & symptoms and compare the findings with that of *Mukkutranilai* mentioned in *Siddha* literature.

Each group will summarize the key points from each source, differentiate and justify the *Mukkutranilai* of patients which is cured by *Serankottai*.

At the end of the activity, students should submit a report to the concerned faculty.

Modular Assessment

Assessment method	Hour
Conduct a structured modular assessment. Assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per the table 6C Assess the pg scholar's knowledge of application on <i>Peru Marunthugal</i> (Higher order medicines) and vallathy <i>maruthuvam</i> . (50 Marks) • Assess the pg scholar's knowledge about <i>vallathy</i>, <i>vallathy karpam</i>. (10 Marks) • Assess the pg scholar's knowledge in <i>Iympootha</i> theory during application of higher order medicine. (10 Marks) • OSCE for the application of <i>Peru Marunthugal</i> (Higher order medicines) in debilitating diseases. (20 Marks) • Topic presentation about the preparations of <i>serankottai</i>. (10 Marks) or Any practical in converted form can be taken for assessment. (25 marks) and Any of the experiential as portfolio/reflections/presentations can be taken as an assessment. (25 Marks)	4

Module 22 : General Pharmacology

Module Learning Objectives

(At the end of the module, the students should be able to)

Describe the principles, terminology, routes of drug administration of modern pharmacology.

Conduct and study of different route of drug administration.

Identify the different route of drug administration.

M 22 Unit 1 General Pharmacology

22.1.1. Definition 22.1.2. Principles of pharmacology 22.1.3. Sources of drugs 22.1.4. Chemical properties of drugs 22.1.5. Biological effects of drugs 22.1.6. Various dosage forms 22.1.7. Routes of drug administration

References: 54,55,56,57

3A	3B	3C	3D	3E	3F	3G
CO6	Describe the principles of pharmacology, sources of drugs and dosage forms.	3	Lecture	CAN	Knows-how	D,L&PPT
CO6	Elaborate the major routes of drug administration.	6	Practical Training 22.1	PSY-SET	Shows-how	D-M,SY
CO6	Differentiate the various drugs in single and combination dosage form.	8	Experiential-Learning 22.1	AFT-VAL	Does	BS,TPW

M 22 Unit 2 Pharmacokinetics and Pharmacodynamics

22.2.1. Transport of Drugs 22.2.2. Absorption 22.2.3. Bioavailability 22.2.4. Equivalence 22.2.5. Distribution 22.2.6. Biotransformation 22.2.7. Enzyme induction 22.2.8. Excretion 22.2.9. Therapeutic drug monitoring 22.2.10. Mechanism of drug action 22.2.11. Receptor 22.2.12. Dose response relationship 22.2.13. Drug synergism and antagonism 22.2.14. Factors that modify the effects of drugs 22.2.15. Adverse drug reactions 22.2.16. Drug allergy 22.2.17. Drug overdose

References: 54,55,56,57

3A	3B	3C	3D	3E	3F	3G
CO6	Describe the Pharmacokinetics (Absorption, Distribution, Biotransformation and	3	Lecture	CAN	Knows-	L&PPT

	excretion) and Pharmacodynamics.				how	,TUT
CO6	Identify the Clinical Pharmacokinetics and Adverse Drug Reaction.	6	Practical Training 22.2	PSY-SET	Shows-how	TBL,PrBL
CO6	Design therapeutic drug monitoring, Treatment of drug over dosage and Drug interaction.	8	Experiential-Learning 22.2	PSY-ORG	Does	DIS,D-M

M 22 Unit 3 Drug development, Pharmacovigilance, Drug Regulation and Drug and Cosmetic Act.

22.3.1. Drug development 22.3.2. Pharmacovigilance 22.3.3. Chronopharmacology 22.3.4. Drug regulations 22.3.5. Essentials from Drugs and cosmetic act 22.3.5.1 Introduction and Definition 22.3.5.2 Administration of the Act and Rule 22.3.5.3 Provisions related to Manufacture, Sale & Distribution of drugs and cosmetics 22.3.5.4 Provisions related to Ayurvedic, Siddha & Unani drugs 22.3.5.5 Schedules to the act and rules

References: 54,55,56,57

3A	3B	3C	3D	3E	3F	3G
CO6	Describe about Drug development, Pharmacovigilance, Chronopharmacology and Drug Regulation.	4	Lecture	CAN	Knows-how	L&PPT ,D
CO6	Demonstrate chrono pharmacology for different diseases.	8	Practical Training 22.3	PSY-SET	Shows-how	LS,PSM, DIS
CO6	Demonstrate Pharmacovigilance and drug regulations.	10	Experiential-Learning 22.3	AFT-SET	Does	SY,DIS,C BL

Practical Training Activity

Practical Training 22.1 : Routes of drug administration.

Total duration: 6 hrs

Symposium: (2 hrs)

Symposium on "Advancing Knowledge in General Pharmacology: Principles, Applications, and Innovations"

To know how to handle, treat preparing animals for experiments and ethical guidelines during the treatment

Measure the required volume of drugs using aseptic techniques

To learn how to give a different types of route of drug administration

Demonstration on model: (2 hrs)

Students are divided into groups and are encouraged to develop 3D models demonstrating the routes of drug administration.

Practical: (2 hrs)

Students are encouraged to understand and evaluate about the routes of drug administration on patients practically.

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 22.2 : Adverse Drug Reaction.

Total duration: 6 hrs

Team-based learning: (3 hrs)

Team teaching on "Pharmacokinetics and Pharmacodynamics: The Dynamic Duo in Drug Therapy"

Define, identify and describe the management of ADR

Describe principles of pharmacovigilance and ADR reporting systems

Project-based learning: (3 hrs)

Students are formed into small groups. Students are encouraged to apply theoretical knowledge to real-world scenarios such as developing treatment plan, solving clinical case studies which help to improve their understanding of Clinical Pharmacokinetics and Adverse Drug Reaction.

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 22.3 : Chrono pharmacology

Total duration: 8 hrs

Discussion: (3 hrs)

Students are encouraged to have group Discussion on "Exploring the Intersections of Drug Development, Pharmacovigilance, and Regulation"

Problem solving method: (3 hrs)

Student typically involve in, structured approach on "Exploring the Intersections of Drug Development, Pharmacovigilance, and Regulation"

Development of guidelines to do with the timing of drug dosing for a range of medications

Discussion on research with circadian rhythm to reveal most peak time to know about drug effectiveness (day or night)

Library session: (2 hrs)

Students are encouraged to refer various articles and journals regarding chrono pharmacology for different diseases from library

At the end of the activity, students should submit a report to the concerned faculty.

Experiential learning Activity

Experiential-Learning 22.1 : Dosage form of drugs.

Total duration: 8 hrs

Brain Storming: (4 hrs)

Students will engage in group discussions centered on the theme: " From monotherapy to multidrug regimens: The role of dosage forms in treatment"

Team project work: (4hrs)

Prepare E-modules on "Essentials of General Pharmacology: Understanding Drug Mechanisms and Therapeutic Applications"

Students will be divided into groups. Each group should prepare a e-module on drug mechanisms and Therapeutic applications.

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 22.2 : Drug action.

Total duration: 8 hrs

Demonstration on Model: (4 hrs)

Digital Presentation: "Navigating Pharmacokinetics and Pharmacodynamics: Key Concepts in Drug Action"

Students will be divided into groups.

Each group should prepare a digital presentation about the drug action.

Discussion: (4 hrs)

Students will participate in group discussions focused on the theme: Silent Risks- Preventing toxicity through therapeutic Drug Monitoring.

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 22.3 : Pharmacovigilance and drug regulations.

Total duration: 10 hrs

Case based learning: (3 hrs)

Each student should prepare and present their own drug related importance of pharmacovigilance with respect to bring awareness to the public.

Symposium: (4 hrs)

Students will organise symposium focused on Pharmacovigilance in herbal and traditional medicine.

Based on discussion with the experts each student should prepare a note on the importance of pharmacovigilance in drug discovery and healthcare.

Discussion: (3 hrs)

Students will be divided into groups to discuss the topic "Balancing drug innovation with regulatory safety".
At the end of the activity, students should submit a report to the concerned faculty.

Modular Assessment

Assessment method	Hour
Conduct a structured modular assessment. Assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per the table 6C Conduct a structured modular assessment. (50 Marks) • Topic presentation about the routes of drug administration. (10 Marks) • Assess the knowledge about integrating pharmacovigilance and drug regulations. (15 Marks) • Quiz and MCQ on chronopharmacology. (10 x 1 = 10 Marks) • Assess the knowledge about pharmacokinetics, pharmacodynamics and adverse drug reaction. (15 Marks) or Any practical in converted form can be taken for assessment. (25 marks) and Any of the experiential as portfolio/reflections/presentations can be taken as an assessment. (25 Marks)	4

Semester No : 6

Module 23 : Systemic Pharmacology

Module Learning Objectives

(At the end of the module, the students should be able to)

Describe the drugs acting on Nervous system, Cardiovascular system, Respiratory system and excretory system
Conduct and study adverse drug reaction and mechanism of action.
Identify the drugs acting on different systems

M 23 Unit 1 Autonomic Nervous System and Central Nervous System

23.1.1. Adrenergic drugs 23.1.2. Cholinergic and Anti cholinergic drugs 23.1.3. Skeletal muscle relaxants 23.1.4. Sedative drugs 23.1.5. Anti epileptic drugs 23.1.6. Drugs used in Neurodegenerative disorders 23.1.7. Drugs used in Psychiatric disorders 23.1.8. Anti depressants and Mood stabilizers 23.1.9. Opioid analgesics and Antagonists 23.1.10. Alcohols 23.1.11. Central Nervous System (CNS) stimulants and Drugs of abuse.

References: 54,55,56,57

3A	3B	3C	3D	3E	3F	3G
CO6	Demonstrate the classification of drug, Mechanism of action, Therapeutic uses and adverse effect	3	Lecture	CAN	Knows-how	L&PPT ,D-M
CO6	Elaborate the mechanism of drugs in ANS and CNS	6	Practical Training 23.1	PSY-SET	Shows-how	D,LS
CO6	Identify the drug activity on ANS and CNS	8	Experiential-Learning 23.1	AFT-SET	Does	D-M

M 23 Unit 2 Drugs acting on kidney and Drugs acting on the intestinal tract

23.2.1. Diuretics and Anti diuretics 23.2.2. Drugs used in Peptic ulcer and Gastro Esophageal Reflux Disease (GERD) 23.2.3. Emetics, Antiemetics and Prokinetic Agents 23.2.4. Drugs for Constipation, Diarrhoea, Irritable Bowel Syndrome (IBS), Inflammatory Bowel Disease (IBD), Biliary and Pancreatic diseases

References: 54,55,56,57

3A	3B	3C	3D	3E	3F	3G
CO6	Describe the classification of drug, Mechanism of action, Therapeutic uses and adverse effect	3	Lecture	CAN	Knows-how	L&PPT
CO6	Elaborate the mechanism of drugs acting on Renal system and GIT	6	Practical Training 23.2	PSY-SET	Shows-how	BL,D

CO6	Identify the drug activity on Renal system and GIT	8	Experiential-Learning 23.2	AFT-SET	Does	PL
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M 23 Unit 3 Drugs acting on cardiovascular system and Drugs acting on the Respiratory System

23.3.1. Renin-Angiotensin-Aldosterone system and other vasoactive peptides. 23.3.2. Calcium channel blockers 23.3.3. Anti hypertensive drugs and drugs used in shock 23.3.4. Treatment of cardiac failure 23.3.5. Drugs used in Ischaemic Heart Disease 23.3.6. Hypolipidaemic drugs 23.3.7. Drugs used in the treatment of Bronchial asthma, Chronic Obstructive Pulmonary Disease (COPD) and Cough

References: 54,55,56,57

3A	3B	3C	3D	3E	3F	3G
CO6	Describe the classification of drug, Mechanism of action, Therapeutic uses and adverse effect	4	Lecture	CAN	Knows-how	L&PPT
CO6	Illustrate practical session related to CVS and RS	8	Practical Training 23.3	PSY-SET	Shows-how	LS,SIM
CO6	Identify the drug activity on CVS and RS	10	Experiential-Learning 23.3	AFT-SET	Does	DIS,PL

Practical Training Activity

Practical Training 23.1 : Mechanism of drugs in Nervous system

Total duration: 6 hrs

Demonstration: (4 hrs)

Students are encouraged to demonstrate on the

Practical Session on "Exploring the Autonomic and Central Nervous Systems: Hands-On Learning and Applications"

Perform invivo experiments or simulated experiments to screen anxiolytics

Perform invivo experiments or simulated experiments to screen anti psychotics

Perform invivo experiments or simulated experiments to screen anti depressants
Perform invivo experiments or simulated experiments to screen anti epileptics
Perform invivo experiments or simulated experiments to screen skeletal muscle relaxant
Perform invivo experiments or simulated experiments to screen analgesics

Library session: (2 hrs)

Students are encouraged to refer various articles and journals on mechanism of drugs in ANS and CNS from library.

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 23.2 : Mechanism of drugs acting on Renal system and GIT

Total duration: 6 hrs

Blended learning: (3 hrs)

Students are encouraged to combine traditional face-to-face instruction with online learning component on understanding Drugs Acting on the Kidney and Intestinal Tract".

Deomnstration: (3 hrs)

Students are divided into teams and encouraged to discuss on "Holistic Pharmacology: Understanding Drugs Acting on the Kidney and Intestinal Tract"

Hands on training on screening of diuretics using Lipschitz test / simulated experiments

Demonstrate anti ulcer activity of dugs using animal model simulated experiments

At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 23.3 : Practical session on CVS and RS

Total duration: 8 hrs

Library session: (3 hrs)

Students are encouraged to review various articles and journals from the library on the topic "Dynamic Pharmacology: Exploring Drugs for the Cardiovascular and Respiratory Systems"

Simulation: (5 hrs)

Students are encouraged to demonstrate the effect of drugs acting on blood pressure using simulated experiments.

At the end of the activity, students should submit a report to the concerned faculty.

Experiential learning Activity

Experiential-Learning 23.1 : Drugs acting on Nervous system

Total duration: 8 hrs

Demonstration on model: (4 hrs) Hands-on Anatomy: Building 3D Models of the Autonomic and Central Nervous Systems" Students will be divided into groups. Each group should create 3D models of the Autonomic and Central Nervous Systems Flipped classroom: (4 hrs) Each student must watch the video or read handout. Complete a brief worksheet with one drug for ANS and CNS with their mechanism, effect, indication. At the end of the activity, students should submit a report to the concerned faculty.	
Experiential-Learning 23.2 : Drugs acts on Renal system and GIT	
Total duration: 8 hrs Peer Learning: (4 Hrs) "Dynamic Drug Chart: Exploring Medications for Kidney and Intestinal Health" Students will be divided into groups. Each group should make dynamic drug chart for renal system. Students will be divided into groups. Each group should make dynamic drug chart for GIT Flipped classroom:(4 hrs) Each student must watch the video or read handout. Complete a brief worksheet with one drug for renal system and GIT with their mechanism, effect, indication. At the end of the activity, students should submit a report to the concerned faculty.	
Experiential-Learning 23.3 : Drugs acts on CVS and RS	
Total duration: 10 hrs Peer learning: (5 Hrs) Infographic Creation: "Pharmacological Pathways: A Visual Guide to Cardiovascular and Respiratory Drugs" Students will be divided into groups.Each group should create an infographic for Cardiovascular system Discussion: (5 Hrs) Students will be divided into groups.Each group discuss about Bronchodilators, Expectorants, Antitussives and Anti-inflammatory. At the end of the activity, students should submit a report to the concerned faculty.	
Modular Assessment	
Assessment method	Hour
Conduct a structured modular assessment. Assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per the table 6C	4

Conduct a structured modular assessment (50 Marks) • Practical performance related to CVS (10 marks) and RS. (15 marks) • Practical performance related to Renal system (10 Marks) and GIT. (15 Marks) or Any practical in converted form can be taken for assessment. (25 marks) and Any of the experiential as portfolio/reflections/presentations can be taken as an assessment. (25 Marks)	
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Module 24 : Experimental and Clinical Pharmacology

Module Learning Objectives

(At the end of the module, the students should be able to)

- Describe the clinical trials, ethical aspects, genomics and Biomarkers.
- Conduct and study research integrity, Genetic variations, Biochemical changes
- Identify the toxicity study

M 24 Unit 1 Experimental pharmacology

24.1.1. Limitations of animal tests 24.1.2. Toxicity studies 24.1.3. Bioassay 24.1.4. General screening 24.1.5. Genetic variations 24.1.6. Bio markers

References: 54,55,56,57

3A	3B	3C	3D	3E	3F	3G
CO6	Describe about toxicity screening, Bio markers and genetic variation	5	Lecture	CAN	Knows-how	L&PPT
CO6	Describe the limitations of animal tests	10	Practical	PSY-	Shows-	PER,DIS

			Training 24.1	ORG	how	
CO6	Conduct toxicity studies and general screening	10	Experiential-Learning 24.1	PSY-ORG	Does	DL,JC

M 24 Unit 2 Clinical pharmacology

24.2.1. Clinical trials 24.2.2. Ethical aspects 24.2.3. Guidelines of research integrity 24.2.4. Good Clinical Practice (GCP) 24.2.5. Entrepreneurship ideas and funding agencies 24.2.6. In-vitro and In-silico studies

References: 54,55,56,57

3A	3B	3C	3D	3E	3F	3G
CO6	Demonstrate ethical aspects of clinical pharmacology and GCP	5	Lecture	CAN	Knows-how	L&PPT
CO6	Illustrate entrepreneurship ideas and propose for funding agencies	10	Practical Training 24.2	PSY-SET	Shows-how	DIS,PER
CO6	Demonstrate In-vitro and In-silico studies	10	Experiential-Learning 24.2	PSY-ORG	Does	FV,DL,DIS
CO6	Demonstrate In-vitro and In-silico studies	6	Experiential-Learning 24.3	PSY-ORG	Does	FV,DIS,JC,DL

Practical Training Activity

Practical Training 24.1 : Limitations of animal tests

Total duration: 10 hrs

Discussion: (5 hrs)

Students are encouraged to discuss on
 Virtual Experiments in Pharmacology: Exploring Toxicity Studies, Bioassays, and Alternatives to Animal Testing.
 Focus on scientific concern over the validity of animal research
 Discuss on alternatives to animal research and their validation and use in production of human pharmaceuticals
 Presentation: (5 hrs)
 Students are encouraged to prepare and deliver presentation on the recent researches on limitations of animal tests.
 At the end of the activity, students should submit a report to the concerned faculty.

Practical Training 24.2 : Funding agencies

Total duration: 10 hrs
 Discussion: (5 hrs)
 Students are divided into teams and are encouraged to engage in group discussions to share their perspective ideas on entrepreneurship and and understand about how to identify suitable funding agencies and propose for funding.
 Presentation: (5 hrs)
 Students are encouraged to prepare and deliver presentation on entrepreneurship and their understanding on funding agencies.
 At the end of the activity, students should submit a report to the concerned faculty.

Experiential learning Activity

Experiential-Learning 24.1 : General screening

Total duration: 10 hrs
 Demonstration lab:(6 hrs)
 Field Exposure "Hands-On Experience in Experimental Pharmacology: Navigating Alternatives to Animal Testing"
 Students will be sent to the nearby veterinary or pharmacology institutions to perform alternatives to animal tests.
 Journal club on drug development (4 hrs)
 Students should discuss and critically evaluate recent research articles on drug development from peer-reviewed journals.
 At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 24.2 : In-vitro and In-silico studies

Total duration: 10 hrs
 Discussions: (4 hrs)

Students are encouraged to have discussion on "In-vitro and In-silico studies".

Field Visit / Demonstration lab: (6 hrs)

PG Scholars will be sent to nearby institution to perform In-vitro and In-silico studies.

At the end of the activity, students should submit a report to the concerned faculty.

Experiential-Learning 24.3 : In-vitro and In-silico studies

Total duration: 6 hrs

Field visit / Demonstration Lab / Discussions: (3 hrs)

Students are encouraged to have discussion on "In-vitro and In-silico studies".

PG Scholars will be sent to nearby institution to perform In-vitro and In-silico studies.

Journal club: (3 hrs)

Students should discuss and critically evaluate recent research articles on In-vitro and In-silico studies.

At the end of the activity, students should submit a report to the concerned faculty.

Modular Assessment

Assessment method	Hour
Conduct a structured modular assessment. Assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per the table 6C Assess the pg scholar's knowledge about experimental and clinical pharmacology. (50 marks) • Assess the knowledge in limitation of animal test. (10 Marks) • Quiz and MCQ on biomarkers. (10 x 1 = 10 Marks) • Assess the knowledge about toxicity study. (15 Marks) • Assess the knowledge about In-vitro and In-silico studies. (15 Marks) or Any practical in converted form can be taken for assessment. (25 marks) and Any of the experiential as portfolio/reflections/presentations can be taken as an assessment. (25 Marks)	4

Paper No : 4 Recent Advances in Medicine						
Semester No : 3						
Module 25 : Emergency Medicine & Respiratory Medicine						
Module Learning Objectives (At the end of the module, the students should be able to) Recognize and describe the causes and manifestations of medical emergencies, including respiratory diseases, poisonings, and snake bites, along with their initial management. Demonstrate the ability to perform essential emergency procedures such as cardiopulmonary resuscitation (CPR) and interpret emergency diagnostic tools like ECG, chest X-ray (CXR), and abdominal X-ray. Analyze emergency conditions where Siddha treatment is applicable and understand the etiopathogenesis of respiratory system diseases.						
M 25 Unit 1 Basics of Emergency Care 25.1.1 History, clinical examination and diagnosis in emergency care 25.1.2 Triage & medicolegal aspects in emergency 25.1.3 Art of communication in an emergency 25.1.4 Trauma and burns care 25.1.5 Cardiopulmonary resuscitation (CPR) and cardiac arrest References: 83,84,85,99,100,101,102,103,104,105,106,107,108,109,110,111,112,113,114,115,116,117,119,120,121,122,123,124,125,129,130,131,132,135,136,138,139,140,141,142,143,145,147						
3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Describe what is triage and knows the medicolegal aspects in emergency care.	1	Lecture	CC	Knows-how	L&PPT
CO1,CO3	Analyze the complications of burns.	1	Lecture	CAN	Knows-how	L&PPT

CO1,CO3	Perform necessary investigations for a patient coming with emergency.	1	Practical Training 25.1	PSY-GUD	Shows-how	CBL
CO1,CO3	Assess a patient coming with burns.	1	Practical Training 25.2	PSY-MEC	Shows-how	CBL,PBL
CO1,CO3	Analyze the causes of sudden cardiac arrest.	1	Practical Training 25.3	PSY-SET	Shows-how	CBL
CO1,CO3	Demonstrate how and when to use defibrillator.	1	Practical Training 25.4	PSY-GUD	Shows-how	D,SIM
CO1,CO3	Elicit history and do clinical examination of a patient coming with emergency.	1	Experiential-Learning 25.1	PSY-ADT	Does	PBL,CBL
CO1,CO3	Practice the art of communicating the treatment options and prognosis to the patients attenders in an emergency.	1	Experiential-Learning 25.2	AFT-REC	Does	TBL
CO1,CO3	Assess a patient coming with trauma.	2	Experiential-Learning 25.3	PSY-MEC	Does	CBL,X-Ray
CO1,CO3	Demonstrate CPR in adults.	2	Experiential-Learning 25.4	PSY-GUD	Does	D,SIM,D-M

M 25 Unit 2 Systemic Emergency

25.2.1 Cardiac emergency 25.2.2 Respiratory emergency 25.2.3 Abdominal emergency 25.2.4 Neurological emergency

References:

83,84,85,99,100,101,102,103,104,105,106,107,108,109,110,111,112,113,114,115,117,121,122,123,124,125,126,129,130,131,132,135,136,138,139,140,141,142,143

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Describe the causes of respiratory distress and co relate clinically.	1	Lecture	CC	Knows-how	L&PPT
CO1,CO3	Assess a patient with acute abdomen and know how to differentiate medical and surgical causes of acute abdomen.	1	Lecture	CE	Knows-how	CBL
CO1,CO3	Identify the warning signs in an unconscious patient.	1	Lecture	CC	Knows-how	PBL
CO1,CO3	Elicit history and evaluate the different types of chest pain.	1	Practical Training 25.5	PSY-ADT	Shows-how	CBL
CO1,CO3	Perform the relevant necessary investigations to clinch the diagnosis in a patient with cardiac emergency.	1	Practical Training 25.6	PSY-GUD	Shows-how	LRI,CBL
CO1,CO3	Perform the relevant necessary investigations to clinch the diagnosis in a patient with respiratory emergency.	1	Practical Training 25.7	PSY-GUD	Shows-how	CBL
CO1,CO3	Perform the relevant necessary investigations to clinch the diagnosis in a patient with abdominal emergency.	1	Practical Training 25.8	PSY-GUD	Shows-how	CBL
CO1,CO3	Perform the relevant necessary investigations to clinch the diagnosis in a patient with neurological emergency.	1	Practical Training 25.9	PSY-GUD	Shows-how	PBL
CO1,CO3	Interpret ECG in emergency room.	2	Experiential-Learning 25.5	PSY-MEC	Does	LRI,CBL
CO1,CO3	Interpret Chest X Ray in emergency room.	1	Experiential-Learning 25.6	PSY-MEC	Does	X-Ray
CO1,CO3	Interpret Abdominal X- ray.	1	Experiential-Learning 25.	PSY-MEC	Does	X-Ray

			7			
CO1,CO3	Assess the neurological status of a patient coming with neurological emergency.	1	Experiential-Learning 25.8	PSY-MEC	Does	CBL
CO1,CO3	Design a Siddha treatment plan for emergency care by reviewing literature and publications on asthma.	2	Experiential-Learning 25.9	PSY-ORG	Does	TPW

M 25 Unit 3 Toxicology and poisoning Contents:

25.3.1 Poisoning and Presentation 25.3.2 Snakebite and Presentation

References: 119,120

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Demonstrate and identify the presentations in most common causes of poisoning.	1	Practical Training 25.10	PSY-GUD	Shows-how	D-M
CO1,CO3	Demonstrate the initial approach to the stabilization of the patient who presents with poisoning.	1	Experiential-Learning 25.10	PSY-MEC	Does	TBL
CO1,CO3	Demonstrate the local poisonous snakes, their bites and initial approach to the stabilization of the patient who presents with poisoning.	1	Experiential-Learning 25.11	PSY-MEC	Does	TBL
CO1,CO3	Develop a Siddha treatment plan for poisoning and poisonous bites by reviewing literature and publications on emergency management	2	Experiential-Learning 25.12	PSY-ORG	Does	LS,JC,ML

M 25 Unit 4 Essentials of respiratory system

25.4.1 Applied anatomy and function of respiratory system 25.4.2 History, clinical examination of respiratory system 25.4.3 Investigations of respiratory system

References: 84,85,99,101,102,103,104,105,107,108,109,110,111,112,113,114,115,116,117,122,123,124,125,129,130,131,132,134,135,136,138,139,140,141,142,143,146

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Design a project on the functional anatomy and physiology of respiratory system.	1	Practical Training 25.1 1	PSY-ORG	Shows-how	PrBL,TP W
CO1,CO3	Design a role play to demonstrate the control of breathing	1	Practical Training 25.1 2	CS	Shows-how	RP
CO1,CO3	Distinguish the commonly presenting various symptoms in a patient with respiratory disease.	1	Experiential-Learning 25. 13	PSY-MEC	Does	DIS,D
CO1,CO3	Demonstrate history taking in a patient presenting with respiratory complaints.	1	Experiential-Learning 25. 14	PSY-GUD	Does	CBL
CO1,CO3	Demonstrate clinical examination in a patient with respiratory disease.	1	Experiential-Learning 25. 15	PSY-GUD	Does	CBL
CO1,CO3	Interpret the abnormalities in various investigations associated with respiratory diseases	1	Experiential-Learning 25. 16	CE	Does	LRI,CBL

M 25 Unit 5 Diseases of respiratory system

25.5.1 Asthma 25.5.2 Chronic Obstructive Pulmonary Disease (COPD) 25.5.3 Bronchiectasis, lung abscess, cystic fibrosis 25.5.4 Pleural diseases - pleural effusion, pneumothorax, hydropneumothorax

References: 83,84,85,99,101,102,103,104,105,107,108,109,110,111,112,113,115,116,117,122,123,124,125,130,131,132,135,136,138,139,140,141,142,143

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Formulate a view of the various causes and triggers of asthma.	1	Lecture	CS	Knows-how	L&PPT
CO1,CO3	Differentiate the complications of asthma.	1	Lecture	CAN	Knows-how	L&PPT
CO1,CO3	Organize the complications of COPD into categories.	1	Lecture	CAN	Knows-how	CBL
CO1,CO3	Examine the underlying causes and progression of bronchiectasis, lung abscess, and cystic fibrosis.	1	Lecture	CAN	Knows-how	CBL
CO1,CO3	Analyze the etiopathogenesis of pneumothorax.	1	Lecture	CAN	Knows-how	L&PPT
CO1,CO3	Analyze the pathogenesis of asthma.	1	Practical Training 25.13	PSY-GUD	Shows-how	RP,D
CO1,CO3	Interpret abnormalities of Spirometry in asthma patients.	1	Practical Training 25.14	PSY-GUD	Shows-how	CBL
CO1,CO3	Analyze the pathogenesis of COPD.	1	Practical Training 25.15	CAN	Shows-how	D
CO1,CO3	Diagnose and present a case with COPD.	1	Practical Training 25.16	PSY-GUD	Shows-how	CBL
CO1,CO3	Demonstrate the procedure to assess signs related to the pathogenesis of pleural effusion.	1	Practical	PSY-	Shows-	D

			Training 25.1 7	GUD	how	
CO1,CO3	Diagnose and present a case with pneumothorax.	1	Practical Training 25.1 8	PSY- GUD	Shows- how	X- Ray,CD
CO1,CO3	Demonstrate the identification of etiopathogenesis of pyothorax and hydrothorax.	1	Practical Training 25.1 9	PSY- GUD	Shows- how	LRI
CO1,CO3	Present a case with asthma.	1	Experiential- Learning 25. 17	PSY- MEC	Does	CBL
CO1,CO3	Customize an asthma preventive action plan for a patient coming with asthma.	1	Experiential- Learning 25. 18	PSY- ADT	Does	DIS,LS,T BL,ML
CO1,CO3	Perform counselling for a patient with severe asthma.	1	Experiential- Learning 25. 19	AFT-RES	Does	CBL
CO1,CO3	Develop a siddha treatment plan based on the severity of asthma by reviewing literature and publications on asthma.	1	Experiential- Learning 25. 20	PSY- ORG	Does	CBL
CO1,CO3	Diagnose and present a case with bronchiectasis, lung abscess and cystic fibrosis.	1	Experiential- Learning 25. 21	CAN	Does	L_VC
CO1,CO3	Interpret pleural effusion with light's criteria.	1	Practical Training 25.2 0	PSY- GUD	Shows- how	CBL,LRI

Practical Training Activity
Practical Training 25.1 : Case study in a patient coming with an emergency.
Total duration of the activity (1 hour). Case-Based Learning The procedure will be explained by the faculty to the students and they are instructed to follow the same under their guidance. Case study in a patient coming with emergency.(10 mins) Prepare the patient for examination.(5 mins) Get consent for attender. (10 mins) Take history and examine the vitals.(25 mins) Order the required investigations for diagnostic purpose.(10 mins)
Practical Training 25.2 : Case study in patient coming with burns.
Total duration of the activity (1 hour). Case-Based Learning, Problem-Based Learning The procedure will be explained by the faculty to the students and they are instructed to follow the same under their guidance. Assess the type of emergency. (30 mins) Discuss to provide emergency care in case study. (30 mins)
Practical Training 25.3 : Case study to define causes of sudden cardiac arrest.
Total duration of the activity (1 hour). Case-Based Learning The procedure will be explained by the faculty to the students and they are instructed to follow the same under their guidance. Conduct case study to explain the causes of sudden cardiac arrest.
Practical Training 25.4 : Perform the procedures of defibrillator usage.
Total duration of the activity (1 hour). Demonstration, Simulation The procedure will be explained by the faculty to the students and they are instructed to follow the same under their guidance. The students will be demonstrated by the faculty about the procedures of defibrillator usage in simulation model.

Practical Training 25.5 : Evaluate the different types of chest pain.

Total duration of the activity (1 hour).

Case-Based Learning

The procedure will be explained by the faculty to the students and they are instructed to follow the same under their guidance.

The teacher will demonstrate the different types of chest pain based on clinical history, physical examination, general examination and vitals.

Practical Training 25.6 : Clinch the diagnosis in a patient with cardiac emergency.

Total duration of the activity (1 hour).

Case-based learning, Lab Report Interpretation

The procedure will be explained by the faculty to the students and they are instructed to follow the same under their guidance.

Prepare the patient for examination. (10 mins)

Get consent for attender. (10 mins)

Take history and examine the vitals with pulse oximetry (Spo2), ECG, Echocardiogram and cardiac biomarkers. (30 mins)

Order the required investigations for diagnostic purposes in a patient with cardiac emergency . (10 mins)

Practical Training 25.7 : Clinch the diagnosis in a patient with respiratory emergency.

Total duration of the activity (1 hour).

Case-Based Learning

The procedure will be explained by the faculty to the students and they are instructed to follow the same under their guidance.

Prepare the patient for examination. (10 mins)

Get consent for attender. (10 mins)

Take history and examine the vitals with pulse oximetry (Spo2), ECG,. (30 mins)

Order the required investigation like for diagnostic purposes in a patient with the respiratory emergency. (10 mins)

Practical Training 25.8 : Diagnosis in a patient with abdominal emergency.

Total duration of the activity (1 hour).

Case-Based Learning

The procedure will be explained by the faculty to the students and they are instructed to follow the same under their guidance.

Prepare the patient for examination.(10 mins)

Get consent for attender. (10 mins)

Take history and examine the vitals with pulse oximetry and ECG.(30 mins)
Order the required investigations for diagnostic purpose in a patient with abdominal emergency. (10 mins)

Practical Training 25.9 : Diagnosis in a patient with neurological emergency.

Total duration of the activity (1 hour).
Problem-Based Learning
The procedure will be explained by the faculty to the students and they are instructed to follow the same under their guidance.
Prepare the patient for examination. (10 mins)
Get consent for attending. (10 mins)
Take history and examine the vitals with pulse oximetry (Spo2), and ECG. (30 mins)
Order the required investigations for diagnostic purposes in a patient with a neurological emergency. (10 mins)

Practical Training 25.10 : Observe the root cause of poisoning for further care.

Total duration of the activity (1 hour).
Demonstration on Model
The procedure will be explained by the faculty to the students and they are instructed to follow the same under their guidance.
Perform history taking general examination with vital signs and the systemic examination by inspection, palpation, percussion and auscultation and perform specific examination of affected system to find out the root cause of poisoning for further care.

Practical Training 25.11 : Project on the functional anatomy and physiology of respiratory system.

Total duration of the activity (1 hour).
Project-Based Learning, Team Project Work
The procedure will be explained by the faculty to the students and they are Project-Based Learning, Team Project Work instructed to follow the same under their guidance.
Students are divided into two teams to analyse the functional anatomy and physiology of respiratory system for the diagnosis and management purpose.

Practical Training 25.12 : Role play on the control of breathing to improve lung functions

Total duration of the activity (1 hour).
Role Plays
The procedure will be explained to the students by the faculty, and they are instructed to follow it under their guidance.
Role play on the control of breathing should be conducted to improve lung functions (1 hour)

Students are encouraged to roleplay as certain characters and simulate practical applications of collaboration in order to enhance collective decision-making while analyzing breathing regulation to enhance lung function.

Practical Training 25.13 : Pathogenesis of asthma.

Total duration of the activity (1 hour).

Demonstration, Role Plays

The procedure will be explained by the faculty to the students and they are instructed to follow the same under their guidance.

Demonstrate by making diagram, flowchart, to illustrate the key points to analyze the pathogenesis of asthma.

Practical Training 25.14 : Abnormalities of Spirometry in asthma patients.

Total duration of the activity (1 hour).

Case-Based Learning

The procedure will be explained to the students by the faculty, and they are instructed to follow it under their guidance.

Conduct practical demonstrations in Pulmonary function test procedures and observe the abnormalities in asthma patients.

Practical Training 25.15 : Pathogenesis of COPD.

Total duration of the activity (1 hour).

Demonstration

The procedure will be explained by the faculty to the students and they are instructed to follow the same under their guidance.

Demonstrate by making diagram, flowchart, to illustrate the key points to analyze the pathogenesis of COPD.

Practical Training 25.16 : Case presentation on COPD.

Total duration of the activity (1 hour).

Case-Based Learning

The procedure will be explained by the faculty to the students and they are instructed to follow the same under their guidance.

Perform general examination , inspection ,palpaton ,percussion, auscultation and specific examination of respiratory system with pulseoximetry(SpO₂),and correlation with PFT findings.

Practical Training 25.17 : Pathogenesis of pleural effusion.

Total duration of the activity (1 hour).

Demonstration

The procedure will be explained by the faculty to the students and they are instructed to follow the same under their guidance.

Demonstrate by making diagram, flowchart, to illustrate the key points to analyze the pathogenesis of pleural effusion.

Practical Training 25.18 : Clinical diagnosis of pneumothorax.

Total duration of the activity (1 hour).

Case Diagnosis, X-ray Identification

The procedure will be explained by the faculty to the students and they are instructed to follow the same under their guidance.

Based on the history and physical examination formulate the list of possible differential diagnosis order the biochemical haematological, radiological and specialised test to interpret the results and narrow down the possibilities and arrive the most likely diagnosis like pneumothorax.

Practical Training 25.19 : Etiopathogenesis on pyothorax, hydrothorax.

Total duration of the activity (1 hour).

Lab Report Interpretation

The procedure will be explained by the faculty to the students and they are instructed to follow the same under their guidance.

Based on the history and physical examination formulate the list of possible differential diagnosis order the biochemical haematological, radiological and specialised test to interpret the results and narrow down the possibilities and arrive the most likely diagnosis like pyothorax and hydrothorax.

Practical Training 25.20 : Pleural effusion with light's criteria.

Total duration of the activity (1 hour).

Case-Based Learning and Lab Report Interpretation

The procedure will be explained to the students by the faculty, and they are instructed to follow it under their guidance.

Case presentation in pleural effusion with light's criteria and correlation of symptoms with lab findings. (1 hour)

Interpret the biochemical results to narrow down the possibilities and arrive at the most likely diagnosis.

The discussion includes a minimum of two biochemical reports.

Experiential learning Activity

Experiential-Learning 25.1 : Evaluation in a patient coming with emergency.

Total duration of the activity (1 hour)

Case-Based Learning, Problem-Based Learning

An introduction on the principles of emergency history taking and clinical examination should be delivered by the faculty to establish the session framework. (10 minutes)

PG scholars should be divided into teams of two to three members and assigned a patient case scenario presenting with emergency symptoms. (5 minutes)

Each team should perform thorough history taking focusing on presenting complaint, duration, associated symptoms, past medical history, and relevant social history. (5 minutes)

Vital signs including pulse, blood pressure, respiratory rate, temperature, and oxygen saturation should be recorded systematically by each team. (10 minutes)

The clinical examination should be conducted emphasizing key systems related to the emergency complaint such as cardiovascular, respiratory, neurological, or abdominal systems. (15 minutes)

Each team should discuss their findings and formulate a preliminary clinical impression and plan for further evaluation or intervention. (5 minutes)

A detailed report summarising the history, examination findings, vital signs, and suggested next steps should be prepared by each team. (5 minutes)

Reports should be submitted to the concerned faculty for evaluation and feedback to conclude the session. (5 minutes)

Experiential-Learning 25.2 : Communicating the treatment options and prognosis to the patients attenders in an emergency.

Total duration of the activity (1 hour)

Team-Based Learning

A brief introduction on the importance of effective communication in emergency care should be provided by the faculty to set the context. (5 minutes)

PG scholars should be divided into small teams of two to three members and assigned different emergency clinical scenarios requiring communication of treatment options and prognosis. (5 minutes)

Each group should discuss the clinical details, possible treatment options, associated risks, and prognostic factors related to their assigned case. (15 minutes)

The teams should then deliberate on the best communication strategies to clearly and compassionately convey information to the patients' attenders, considering cultural sensitivity and emotional impact. (15 minutes)

A role-play or simulation exercise should be performed within the groups to practice delivering the information effectively and handling possible questions or concerns from attenders. (10 minutes)

Each team should prepare a concise report summarising the treatment options discussed, prognosis communicated, and communication approaches used in the exercise. (5 minutes)

Reports should be submitted to the concerned faculty for review and constructive feedback to complete the session. (5 minutes)

Experiential-Learning 25.3 : Patient coming with trauma.

Total duration of the activity (2 hours)

Case-Based Learning, X-ray Identification

A brief introduction on the principles of trauma assessment and primary survey should be delivered by the faculty to establish the framework. (10 minutes)

PG scholars should be divided into teams of two to three members and assigned trauma case scenarios for practical evaluation. (10 minutes)

Each team should perform a detailed visual inspection of the simulated patient focusing on identifying major bleeding sites, visible injuries, deformities, and potential fractures. (20 minutes)

Vital signs including pulse, blood pressure, respiratory rate, and oxygen saturation should be monitored and recorded systematically by each team. (15 minutes)

Radiological images such as X-rays related to the trauma cases should be reviewed by the teams to confirm suspected fractures and internal injuries. (20 minutes)

Teams should discuss their clinical findings, correlate with radiological data, and formulate an initial management plan under faculty guidance. (20 minutes)

Each team should compile a comprehensive report summarising the trauma assessment, vital signs, imaging interpretation, and proposed interventions. (15 minutes)

Reports should be submitted to the concerned faculty for evaluation and constructive feedback to conclude the session. (10 minutes)

Experiential-Learning 25.4 : CPR in adults.

Total duration of the activity (2 hours)

Demonstration, Demonstration on Model, Simulation

An introduction to the principles of basic life support and adult CPR guidelines should be delivered by the faculty to provide the conceptual framework. (15 minutes)

PG scholars should be divided into teams of two to three members, and each team should be assigned a CPR training manikin or simulation model. (10 minutes)

A faculty-led demonstration of the CPR technique including chest compressions, rescue breaths, hand positioning, and compression rate should be performed on the model. (15 minutes)

Each team should individually perform the CPR procedure under observation, following the correct sequence of checking responsiveness, calling for help, and initiating compressions. (20 minutes)

Feedback and correction of techniques should be provided immediately by faculty members to ensure proper learning and execution. (20 minutes)

Common errors in CPR technique and real-life challenges during emergency situations should be discussed through interactive simulation scenarios. (15 minutes)

Each team should be given a case-based situation where they have to perform a complete CPR cycle and demonstrate team coordination. (15 minutes)

A report summarising the CPR steps performed, challenges faced during simulation, and key takeaways should be prepared by each team. (5 minutes)

Reports should be submitted to the concerned faculty for review and feedback to conclude the session. (5 minutes)

Experiential-Learning 25.5 : Demonstrate various ECG reports and interpret the diagnosis in casualty postings.

Total duration of the activity (2 hours)

Case-Based Learning, Lab Report Interpretation

An introduction to the basics of ECG reading including rate, rhythm, axis, intervals, and waveforms should be delivered by the faculty to set the foundation. (15 minutes)

PG scholars should be divided into small teams and assigned ECGs from actual or simulated emergency cases encountered in the casualty department. (10 minutes)

Each team should examine the ECG step by step, beginning with technical quality checks such as lead placement and artifact identification. (10 minutes)

Detailed analysis of rate, rhythm, PR interval, QRS duration, QT interval, and ST-T changes should be conducted by each team. (20 minutes)

Common emergency ECG patterns such as myocardial infarction, arrhythmias, electrolyte imbalances, and conduction blocks should be identified and discussed. (20 minutes)

Each ECG should be interpreted in light of the clinical history and presentation, with teams suggesting the most likely diagnosis and immediate management steps. (20 minutes)

Faculty should supervise the discussion and provide clarifications, ensuring correct interpretation and clinical application. (10 minutes)

Each team should prepare a structured report including the ECG interpretation, probable diagnosis, and emergency intervention suggested. (10 minutes)

Reports should be submitted to the concerned faculty for evaluation and feedback. (5 minutes)

Experiential-Learning 25.6 : The diagnosis for Chest X Ray in emergency room.

Total duration of the activity (1 hour)

X-ray Identification

An introduction to emergency chest X-ray interpretation principles should be provided by the faculty to guide the session. (10 minutes)

PG scholars should be divided into small teams consisting of two to three members and assigned emergency chest X-ray films or digital images. (5 minutes)

Each team should review the X-ray and document the time and date when it was taken, ensuring attention to technical quality and orientation. (5 minutes)

Lung fields, cardiac silhouette, mediastinum, pleural spaces, and visible bony structures should be systematically evaluated for abnormalities. (10 minutes)

Any signs of pneumothorax, pleural effusion, consolidation, collapse, cardiomegaly, or vascular congestion should be identified and noted. (10 minutes)

The radiological findings should be correlated with the clinical presentation documented in casualty, allowing each team to suggest a probable diagnosis. (10 minutes)

Each team should compile a concise and structured report outlining the X-ray findings, probable diagnosis, and any suggested clinical interventions. (5 minutes)

Reports should be submitted to the concerned faculty for review and discussion to complete the session. (5 minutes)

Experiential-Learning 25.7 : Improve the skills in reading abdominal Xray.

Total duration of the activity (1 hour)

X-ray Identification

An overview of abdominal X-ray anatomy and radiological interpretation principles should be presented by the faculty to initiate the session. (10 minutes)

PG scholars should be divided into small groups and assigned a set of abdominal X-rays including both normal and pathological cases. (5 minutes)

Each group should examine the given X-rays to identify the presence of masses, calcifications, bowel gas patterns, organ outlines, and any displacement or distortion of structures. (10 minutes)

Special focus should be given to identifying radiopaque densities suggestive of gallstones, kidney stones, or foreign bodies. (10 minutes)

Findings from each group should be discussed under faculty supervision, emphasizing systematic reading techniques and common diagnostic pitfalls. (10 minutes)

Each group should be guided to correlate the radiological findings with possible clinical conditions and suggest further imaging or management if needed. (10 minutes)

A structured report summarising the findings and interpretations of each X-ray case should be prepared by the group. (5 minutes)

Reports should be submitted to the concerned faculty for review and feedback. (5 minutes)

Experiential-Learning 25.8 : Approach the patient coming with neurological emergency.

Total duration of the activity (1 hour)

Case-Based Learning

An introductory briefing on common neurological emergencies and their clinical relevance should be given by the faculty to establish a focused learning environment. (5 minutes)

PG scholars should be grouped into small teams and assigned simulated or real-life case scenarios involving acute neurological presentations such as stroke, seizures, or altered consciousness. (5 minutes)

Each team should approach the given case by systematically evaluating the airway, breathing, and circulation before performing a focused neurological examination. (10 minutes)

Neurological status including level of consciousness, cranial nerve assessment, motor and sensory examination, and reflex testing should be demonstrated and documented by the teams. (10 minutes)

Based on clinical findings, differential diagnoses and immediate management priorities should be identified and discussed under faculty guidance. (10 minutes)

Appropriate therapeutic interventions including use of medications, imaging decisions, and referral protocols should be outlined and justified by the team. (10 minutes)

Each team should consolidate the case findings into a structured report, including clinical impressions and proposed interventions, for submission. (5 minutes)

Reports should be submitted to the concerned faculty for review and feedback to complete the session. (5 minutes)

Experiential-Learning 25.9 : Reviewing literature and publications on asthma.

Total duration of the activity (2 hours)

Team Project Work

An overview of Siddha principles in the context of emergency care and asthma management should be introduced by the faculty to provide foundational understanding. (15 minutes)

PG scholars should be divided into small teams and assigned specific themes or focus areas within asthma management such as pathophysiology, acute exacerbation, or Siddha formulations. (10 minutes)

Indexed journal articles, classical Siddha texts, and relevant modern publications should be reviewed by each team to identify key insights and treatment strategies. (25 minutes)

A discussion and brainstorming session among team members should be conducted to integrate Siddha-based protocols into an evidence-informed emergency treatment framework. (20 minutes)

A structured draft of the review article should be outlined collaboratively, with attention given to creative presentation, authenticity, and citation of credible sources. (25 minutes)

Each team's draft should be refined with inclusion of Siddha terminologies, disease classification, and recommended formulations for acute asthma episodes. (15 minutes)
 Each team should finalise their review article and prepare a brief summary highlighting the rationale behind the proposed Siddha emergency care plan. (5 minutes)
 The final report should be submitted to the concerned faculty for evaluation and feedback.(5 minutes)

Experiential-Learning 25.10 : Initial approach to the stabilization of the patient who presents with poisoning.

Total duration of the activity (1 hour)

Team-Based Learning

A brief introduction to general principles of poisoning management should be presented by the faculty to set the clinical context. (5 minutes)

PG scholars should be divided into small teams and assigned a case scenario involving a poisoned patient. (5 minutes)

Airway and breathing assessment and support measures should be demonstrated by each team using simulation or mannequins. (10 minutes)

Circulation monitoring including pulse, blood pressure, capillary refill, and ECG evaluation should be performed and interpreted. (10 minutes)

Laboratory investigations including blood gas, electrolytes, and toxicological screening should be identified and explained. (10 minutes)

Methods of toxin elimination enhancement such as activated charcoal, forced diuresis, or dialysis should be reviewed and simulated if possible. (10 minutes)

Each team should summarise the case with a focus on the stabilization steps and rationale for each intervention. (5 minutes)

Reports should be submitted to the faculty for review and feedback. (5 minutes)

Experiential-Learning 25.11 : Characterise the local poisonous snakes,their bites.

Total duration of the activity (1 hour)

Team-Based Learning

An introduction to local poisonous snakes and classification based on their venom type should be presented by faculty. (5 minutes)

Snakebite identification signs and symptoms should be reviewed through discussion of actual or simulated case histories. (5 minutes)

PG scholars should be divided into small teams and assigned a case scenario involving a local poisonous snakebite. (5 minutes)

Each team should discuss the probable species involved, based on fang marks, clinical symptoms, and geographical location. (10 minutes)

First aid measures and initial stabilization steps should be planned and demonstrated by each team using mannequins or role-play. (15 minutes)

Antivenom indications, dosage, and administration methods should be discussed and a simulated administration should be performed. (10 minutes)

Each team should prepare a brief report summarising the snake identified, clinical findings, and stabilization measures taken. (5 minutes)

Reports should be submitted to the faculty for feedback and evaluation. (5 minutes)

Experiential-Learning 25.12 : Siddha treatment plan for poisoning and poisonous bites on emergency management -

Total duration of the activity (2 hour)

Journal Club, Library Session, Mobile Learning

The objective and significance of developing a Siddha-based emergency treatment plan for poisoning and poisonous bites should be introduced by the faculty. (10 minutes)

The types of poisoning and poisonous bites commonly encountered in Siddha clinical practice should be explained. (10 minutes)

Guidance should be given on accessing and reviewing indexed journals, classical Siddha texts, and recent publications related to emergency care. (10 minutes)

A journal club format should be used where each student or group should be assigned one article or classical reference for analysis. (15 minutes)

Students should be instructed on how to critically evaluate literature, extract relevant treatment principles, and identify formulations or procedures. (10 minutes)

A dedicated library session should be conducted where students should access physical or digital resources to gather references. (15 minutes)

Mobile learning tools such as online Siddha databases or mobile journal apps should be introduced to assist in literature retrieval. (10 minutes)

Each group should begin drafting a creative and structured Siddha treatment plan using data collected from their literature review. (15 minutes)

Draft treatment plans should be presented briefly among peers for feedback and clarification of drug choices and emergency protocols. (10 minutes)

Students should revise and finalize their Siddha treatment plans incorporating specific drugs, dosage forms, routes of administration, and adjuvants. (10 minutes)

Each student should prepare and submit a written review article and treatment plan with proper referencing to the concerned faculty. (10 minutes)

A brief reflection on how Siddha literature supports emergency care in poisoning and bites should be shared in group discussion to conclude the session. (5 minutes)

Experiential-Learning 25.13 : Identify the cases with relevant diagnosis in a patient with respiratory disease.

Total duration of the activity (1 hour)

Demonstration, Discussions

An introduction to commonly presenting symptoms in respiratory diseases such as cough, dyspnea, wheeze, hemoptysis and chest pain should be provided by the faculty.

The clinical relevance and diagnostic significance of each symptom should be explained with examples. (10 minutes)

Short video clips or live demonstrations showing patients with different respiratory symptoms should be presented. The symptom presentation and its characteristics should be observed and interpreted by students. (10 minutes)

Clinical cases with a variety of respiratory presentations should be discussed in small groups. Students should be guided to identify key symptoms and match them with probable respiratory diagnoses. (10 minutes)

Each group should be given a brief written or verbal case scenario. From the symptoms described, students should formulate differential diagnoses and justify their reasoning. (10 minutes)

Group discussions should be held under faculty moderation. Clinical signs, variations in symptom severity and pattern, and relevant history should be discussed to support accurate diagnosis. (10 minutes)

Each scholar should individually write a summary report of the case discussed, including presenting symptoms, most likely diagnosis, and justification

The report should be submitted to the concerned faculty for assessment. (10 minutes)

Experiential-Learning 25.14 : History taking in a patient presenting with respiratory complaints.

Total duration of the activity (1 hour)

Case-Based Learning

The learning objectives and purpose of structured history taking in respiratory complaints should be explained by the faculty using a clinical case scenario as a reference. This should be done to orient students to the clinical reasoning process required for accurate diagnosis. (5 minutes)

A bedside patient with respiratory symptoms such as cough, dyspnea, chest pain or wheezing should be introduced to the group. Essential background information and presenting complaints should be shared without revealing the diagnosis. (10 minutes)

History taking should be demonstrated briefly by the faculty focusing on symptom analysis, risk factors, occupational and environmental history, and relevant past medical history. This should be done in front of the students to serve as a model for proper technique. (10 minutes)

Each PG student or pair of students should perform independent history taking from the patient. A complete, structured history including chief complaints, history of presenting illness, systemic review and drug and allergy history should be taken and noted. (10 minutes)

The findings gathered during history taking should be discussed among the group and with the faculty. Important clinical clues should be emphasized and missing information should be identified through feedback. (10 minutes)

The respiratory system examination should be performed briefly to correlate history findings with clinical signs. This should be done by students under supervision with guidance on technique and interpretation. (10 minutes)

A case report including detailed history, examination findings, and possible provisional diagnosis should be written by each student individually

The completed report should be submitted to the concerned faculty for review and feedback. (5 minutes)

Experiential-Learning 25.15 : Clinical examination in a patient with respiratory disease.

Total duration of the activity (1 hour)

Case-Based Learning

The objectives and purpose of the clinical examination session should be introduced by the faculty. An overview of the clinical approach to respiratory conditions and the importance of systematic examination should be provided. (5 minutes)

A case scenario involving a patient with a respiratory complaint should be presented. Essential history-taking techniques and targeted questions related to respiratory illness should be demonstrated or explained. (10 minutes)

Students should perform history taking from the presented or simulated patient under supervision. Key symptoms such as cough, dyspnea, hemoptysis, and chest pain, and their progression should be explored. (10 minutes)

A step-by-step demonstration of general physical examination followed by inspection, palpation, percussion, and auscultation of the respiratory system should be done by the faculty or demonstrated through video. This should be done per standard examination protocols. (10 minutes)

Each student or small group should carry out the respiratory system examination on the patient or standardized patient. Findings should be recorded and preliminary interpretations should be discussed within the group. (10 minutes)

Students should present their findings from both history and examination to the faculty and peers. Feedback should be given, and appropriate clinical correlations should be discussed to guide diagnostic reasoning. (10 minutes)

A report summarizing the case history, examination findings, and initial clinical impressions should be written individually. This report should be submitted to the concerned

faculty for assessment. (5 minutes)

Experiential-Learning 25.16 : Investigations associated with respiratory diseases

Total duration of the activity (1 hour)

Case-Based Learning, Lab Report Interpretation

Define the objectives and set the context of the session. A brief orientation to respiratory investigations and clinical correlation should be given. This should be done by the faculty using an example case scenario relevant to respiratory pathology. (5 minutes)

Key respiratory investigations such as chest X-ray, ABG, spirometry, and sputum analysis should be introduced. The types of abnormalities associated with each investigation will have to be highlighted through sample reports. (10 minutes)

A real or simulated case of a patient with a respiratory condition (e.g., COPD, pneumonia, interstitial lung disease) should be presented.

Students should analyze the clinical presentation in conjunction with given investigation reports.

(10 minutes)

Small groups should be formed. Each group will be assigned a different investigation result (e.g., abnormal ABG or abnormal CXR). Critical thinking and diagnostic reasoning should be applied to interpret findings and link them with clinical suspicion. (10 minutes)

Group findings and interpretations should be shared with the whole class. Discussion should be moderated by the faculty to ensure correct conclusions are drawn and common errors are addressed. (10 minutes)

Each student should be guided to compile their interpretation and conclusion. A written report explaining how the investigations support the diagnosis and disease severity should be done and submitted to the faculty. (10 minutes)

Faculty should summarize key takeaways, emphasizing how correct interpretation affects diagnosis, treatment planning, and prognosis in respiratory diseases. A reflective discussion on what should have been done differently in clinical reasoning should be facilitated. (5 minutes)

Experiential-Learning 25.17 : Clinical presentations in asthma.

Total duration of the activity (1 hour)

Case-Based Learning

The faculty should begin the session by introducing the objective of the activity and providing a short clinical background of a patient diagnosed with bronchial asthma. Key expectations for the presentation should be explained clearly to the PG scholars (5 minutes)

The assigned PG scholar should take a detailed clinical history from the patient, focusing on symptoms such as breathlessness, wheezing, cough, diurnal variation, triggering factors, and past treatment history (10 minutes)

The student should perform a complete clinical examination including general physical examination and respiratory system examination, focusing on findings like use of accessory muscles, prolonged expiration, and wheezing on auscultation (10 minutes)

Based on the history and examination findings, the scholar should organize and present the clinical picture of bronchial asthma, mentioning the severity classification and

control status if applicable (10 minutes)

Relevant investigations such as spirometry (with reversibility testing), peak expiratory flow rate, chest X-ray, and allergy testing should be discussed by the student with appropriate interpretation and clinical correlation (10 minutes)

The presenting student should summarize the case by highlighting the diagnosis, severity assessment, and differential diagnosis. The management principles may be briefly mentioned with emphasis on clinical relevance (10 minutes)

The faculty should conclude the session by discussing the strengths and areas of improvement in the presentation. Other students should be encouraged to ask questions or add observations. Clarifications and final guidance should be provided (10 minutes)

At the end of the session, a written report summarizing the case history, examination, investigations, and diagnosis should be submitted by the student to the concerned faculty for review and feedback (5 minutes)

Experiential-Learning 25.18 : Asthma preventive action plan for a patient coming with asthma.

Total duration of the activity (1 hour).

Discussions, Library Session, Mobile Learning, Team-Based Learning

The faculty should introduce the objectives of the session and explain the relevance of preventive action planning in asthma management based on Siddha principles (5 minutes)

PG scholars have to be grouped into teams of five and a brief on a standardized patient case scenario should be distributed to initiate contextual discussion (5 minutes)

Key Siddha-based preventive concepts such as identifying triggering factors, strengthening respiratory function, diet, lifestyle, and seasonal guidance should be reviewed by each team using library resources or mobile-accessed references (10 minutes)

Each team should brainstorm and discuss components to be included in an asthma preventive action plan including symptom tracking, medication compliance, regimen (Pathiyam), yoga, and environment modification (15 minutes)

Teams should document their proposed asthma preventive action plan in a structured format under major headings such as diet, lifestyle, medications, breathing techniques, and follow-up (10 minutes)

Each team should present their plan briefly to the entire group, highlighting the rationale behind their approach and referencing Siddha and modern supportive evidence (10 minutes)

The session should be concluded by the faculty with feedback, discussion on the feasibility and effectiveness of proposed plans, and reinforcement of key preventive strategies (5 minutes)

Experiential-Learning 25.19 : Counselling for a patient with severe asthma.

Total duration of the activity (1 hour).

Case-Based Learning

The faculty should introduce the objectives of the session and the importance of effective counselling in managing severe asthma, especially from a Siddha perspective (5

minutes)

PG scholars have to be divided into teams of two, and a hypothetical case scenario of a patient with severe asthma should be provided to each team (5 minutes)

The faculty should explain the case details including patient history, symptoms, and emotional concerns to simulate a realistic counselling context (5 minutes)

Each team should review and discuss Siddha-based treatment strategies and lifestyle modifications appropriate for severe asthma cases (10 minutes)

Key counselling components including an explanation of the disease, Siddha management plan, diet and regimen (Pathiyam), and emotional support strategies should be prepared by the teams (10 minutes)

Mock counselling sessions should be performed by each team, role-playing as physician and patient, to practice verbal and non-verbal communication skills (15 minutes)

Feedback should be given by the faculty on clarity, empathy, structure, and Siddha content accuracy in the counselling sessions (5 minutes)

The session should be concluded with a brief discussion summarizing good counselling practices, challenges faced by PGs, and integration of Siddha principles into patient education (5 minutes)

Experiential-Learning 25.20 : Siddha treatment plan based on the severity of asthma.

Total duration of the activity (1 hour).

Case-Based Learning

The session objectives and relevance of designing a Siddha treatment plan for asthma based on its severity should be introduced by the faculty (5 minutes)

PG scholars have to be divided into teams of two to encourage collaborative work and discussion (5 minutes)

A case scenario of an asthma patient with varying degrees of severity should be presented to all teams for context and clinical grounding (5 minutes)

Teams should be guided to watch curated video material on asthma management and Siddha approaches as part of the learning stimulus (10 minutes)

Each team should be instructed to review relevant literature and extract references from indexed journals using provided digital resources or library access (10 minutes)

Based on the reviewed literature and video, teams should creatively draft a short review article outlining a Siddha-based treatment plan tailored to different severity levels of asthma (15 minutes)

The draft article should be organized to include patient categorization, stage-based intervention, and drug formulation references as per Siddha classics and modern indexed articles (5 minutes)

The session should be concluded with a peer-sharing round, where each team presents a summary of their review, followed by faculty feedback on content quality and creativity (5 minutes)

Experiential-Learning 25.21 : To compare the clinical findings of cystic fibrosis, bronchiectasis and lung abscess.

Total duration of the activity (1 hour).

Lecture with Video clips

The objectives of the session and the importance of comparing the clinical presentation and diagnosis of cystic fibrosis, bronchiectasis, and lung abscess should be

introduced by the faculty (5 minutes)

PG scholars have to be divided into teams, with two scholars in each team, and each team should be assigned one specific condition to focus on, Instructions regarding expectations from the video analysis should be provided, and a brief explanation of key observation points should be given by the faculty (5 minutes)

Video case presentations on cystic fibrosis should be shown, and clinical presentation and diagnostic clues have to be observed and noted by the teams (10 minutes)

Video case presentations on bronchiectasis should be presented, and signs, symptoms, and progression patterns should be carefully recorded by the scholars (10 minutes)

Video case presentations on lung abscesses should be played, and diagnostic differences and overlapping symptoms should be noted by the PG scholars (10 minutes)

A team-wise discussion should be done, and each team should prepare a comparison chart of clinical findings across the three conditions, including differentiating features (10 minutes)

Presentations should be made by each team, highlighting clinical comparisons, and key points should be discussed openly (5 minutes)

The session has to be concluded by the faculty with a feedback round, where teams may share their insights, and important learning outcomes should be summarized and reinforced (5 minutes)

Modular Assessment

Assessment method

Hour

Conduct a structured modular assessment. Assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per the table 6C

4

Long answer questions of 1 question (10 Marks)

Short answer questions of 2 questions (10 Marks)

Practical performance on “Read CXR in the emergency room”, and “Read abdominal X-ray” (10 Marks)

Practical problem solving “identifies abnormalities of spirometry in Asthma patients” (5 Marks)

Case-based assessment on “Clinical presentations in Asthma” (15 Marks)

- Provide a patient for clinical examination to the student
- Assess the student step by step activities
- Whether the students greet the patient introduce themselves and take consent from the patient.
- Whether the student stands on the right side of the patient and takes a proper history.
- Assess the student on their ability to perform the modern diagnostic methodology perfectly and accurately, as well as the accuracy of their diagnosis.

or

Any practical in converted form can be taken for assessment (25 marks)

and

Any of the experiential as portfolio/ reflections /presentations can be taken as an assessment (25 marks)

Module 26 : Cardiology

Module Learning Objectives

(At the end of the module, the students should be able to)

Describe different Cardiovascular diseases by learning clinical history taking, clinical manifestations, complications and relevant investigations.

Conduct clinical examinations and emergency management in Heart failure, Ischemic heart diseases, Valvular Heart diseases, Congenital heart diseases and Hypertension.

Identify and Recognize the different types of cardiac arrhythmias, Atrial fibrillation, Atrial flutter, AV Block, Bundle branch block, and ventricular arrhythmias.

M 26 Unit 1 Essentials of Cardiology

26.1.1 Functional anatomy and physiology of cardiovascular system 26.1.2 Clinical examination of the cardiovascular system 26.1.3 Investigation of cardiovascular disease

References: 83,84,85,99,101,102,103,104,105,107,108,109,110,111,112,113,114,115,116,121,124,125,126,129,135,136,138,139,140,141,142,143,144,146

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Demonstrate the ability to elicit a clinical history of cardiovascular (CVS) diseases.	1	Practical Training 26.1	PSY-ADT	Shows-how	CBL
CO1,CO3	Demonstrate general and systemic examination in cardiovascular (CVS) diseases.	1	Practical Training 26.2	PSY-ADT	Shows-how	CBL,D-BED
CO3	Demonstrate the ability to elicit history and evaluate different types of chest pain.	2	Practical Training 26.3	PSY-ADT	Shows-how	CD,CBL
CO1,CO3	Interpret a 12-lead ECG.	2	Experiential-	PSY-	Does	LRI,CBL

			Learning 26.1	GUD		
CO1,CO3	Demonstrate the procedure and mention the indications for defibrillator usage	2	Experiential-Learning 26.2	PSY-GUD	Does	SIM,D-M
CO1,CO3	Perform and demonstrate a systemic examinations including pulse, BP, JVP, Peripheral pulses, identification of heart sounds, murmurs and conjunctiva and fundus, lungs, cardiac examinations including palpation, abdominal distension and splenic palpation	2	Experiential-Learning 26.3	PSY-ADT	Does	D-BED,LRI,CD,CBL
CO1,CO3	Approach to the patient with cardiovascular disorders	1	Experiential-Learning 26.4	AFT-REC	Does	CBL,D-BED

M 26 Unit 2 Congenital Heart Disease

26.2.1 Patent ductus arteriosus (PDA) 26.2.2 Coarctation of the aorta (CoA) 26.2.3 Atrial septal defect (ASD) 26.2.4 Ventricular septal defect (VSD) 26.2.5 Tetralogy of fallot

References: 83,84,85,99,101,102,103,104,105,107,108,109,110,111,112,113,114,115,121,124,125,126,129,135,136,138,139,140,141,142,143

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Identify the aetiology Coronary Heart Disease and relate clinically.	1	Lecture	CAN	Knows-how	L&PPT
CO1,CO3	Describe and explain the classifications of Coronary Heart Disease (CHD).	1	Lecture	CAN	Knows-how	L&PPT
CO1,CO3	Demonstrate the elicitation of basic murmurs and interpretation of ECG changes in congenital heart diseases.	1	Practical Training 26.4	PSY-GUD	Shows-how	LRI,CBL,DL
CO1,CO3	Describe general consideration essentials of diagnosis, clinical features and	1	Lecture	PSY-	Knows-	CBL

	investigations of ASD and VSD.			MEC	how	
CO1,CO3	Examine a patient with tetralogy of Fallot.	1	Practical Training 26.5	PSY-GUD	Shows-how	CD,D-BE D,L_VC, CBL
CO1,CO3	Demonstrate incidence and relative frequency of congenital malformations.	1	Experiential-Learning 26.5	PSY-GUD	Does	LS,ML
CO1,CO3	Assess the aetiology of congenital heart diseases	1	Experiential-Learning 26.6	PSY-MEC	Does	LS,ML,SDL
CO1,CO3	Describe the an overview of persistent ductus arteriosus and coarctation of aorta	1	Experiential-Learning 26.7	AFT-VAL	Does	SY

M 26 Unit 3 Acquired diseases of the heart

26.3.1 Heart failure 26.3.2 Ischemic heart disease 26.3.3 Valvular heart disease 26.3.4 Arrhythmia

References: 83,84,85,99,100,101,102,103,104,105,106,107,108,109,110,111,112,113,114,115,121,124,125,126,129,131,135,136,138,139,140,141,142,143,144,146

3A	3B	3C	3D	3E	3F	3G
CO3	Describe the causes of Heart failure and relate clinically.	1	Lecture	CC	Knows-how	PBL,L&P PT
CO1,CO3	Measure the blood pressure accurately recognise and discuss alterations in blood pressure in valvular heart disease and other causes of heart failure	1	Experiential-Learning 26.8	PSY-MEC	Does	CBL,D-BED,CD
CO1,CO3	Demonstrate CPR - Cardio pulmonary resuscitation	2	Experiential-Learning 26.	PSY-GUD	Does	D-M,SIM

			9			
CO1,CO3	Demonstrate peripheral pulse, volume, character, quality and variation in various causes of heart failure	1	Experiential-Learning 26.10	PSY-GUD	Does	D-BED,C D,CBL
CO1,CO3	Identify the aetiology and types of Valvular Heart diseases	2	Experiential-Learning 26.11	PSY-GUD	Does	TBL,CBL
CO1,CO3	Differentiate the types of Heart failure and clinical manifestations	2	Practical Training 26.6	PSY-GUD	Shows-how	TPW,PB L
CO1,CO3	Interpret the investigations to arrive the diagnosis in a patient with heart failure.	2	Practical Training 26.7	PSY-ADT	Shows-how	D-BED,C BL,LRI,C D
CO1,CO3	Describe the history and different causes of IHD	1	Lecture	CC	Knows-how	CBL
CO1,CO3	Summarize the risk factors predisposing the IHD	1	Lecture	CK	Knows-how	L&PPT
CO1,CO3	Differentiate the clinical features of the cardiac valvular regurgitation and stenosis.	2	Practical Training 26.8	PSY-MEC	Shows-how	CBL,CD, D-BED
CO1,CO3	Classify cardiac dysrhythmias in relation to rate and rhythm	2	Experiential-Learning 26.12	PSY-ADT	Does	SY
CO1,CO3	Demonstrate the etiological factors and clinical manifestations of arrhythmia.	2	Practical Training 26.9	PSY-GUD	Shows-how	L_VC
CO1,CO3	Interpret the basic murmur and ECG changes.	2	Practical Training 26.1	PSY-ADT	Shows-how	CBL,DL, LRI

			0			
CO1,CO3	Interpret the relevant investigations for the patient with cardiac emergency	2	Experiential-Learning 26.13	PSY-GUD	Does	ML,DIS,LS
CO1,CO3	Analyze, document, and present an appropriate history to establish the diagnosis, cause, and severity of heart failure, including presenting complaints, precipitating and exacerbating factors, risk factors, exercise tolerance, and changes in sleep patterns.	2	Lecture	CAN	Knows-how	CBL
M 26 Unit 4 Hypertension 26.4.1 Definition of Hypertension 26.4.2 Causes of Hypertension 26.4.3 Approach to newly diagnosed Hypertension 26.4.4 Measurement of Blood Pressure 26.4.5 History taking and examination 26.4.6 Target organ damage References: 83,84,85,99,101,102,103,104,105,107,108,109,110,111,112,113,114,115,116,121,124,125,126,129,135,136,138,139,140,141,142,143						
3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Enumerate the life style interventions to manage HT	1	Experiential-Learning 26.14	PSY-ADT	Does	ML,LS,TBL
CO1,CO3	Enumerate the complications and relevant investigations for Hypertension	1	Experiential-Learning 26.15	PSY-ADT	Does	LRI
CO1,CO3	Describe the classification and relate it clinically	1	Lecture	PSY-GUD	Knows-how	CBL
CO1,CO3	Enumerate the etiology and clinical manifestation of Hypertension	1	Lecture	PSY-GUD	Knows-how	CD
CO1,CO3	Enumerate the approach in Hypertensive emergencies.	1	Practical Training 26.1	PSY-ADT	Shows-how	TBL,D-BED,CD,P

			1			SM,CBL
CO1,CO3	Develop and communicate to the patient lifestyle modification including weight reduction, physical activity and sodium intake in Hypertension	2	Practical Training 26.1 2	PSY-ADT	Shows-how	L_VC,DI S,TPW,D, TBL
CO1,CO3	Demonstrate measuring the Blood pressure	1	Practical Training 26.1 3	PSY-GUD	Shows-how	CBL,D-BED
CO1,CO3	Assess the complications (Target organ damage) in patient with Hypertension	2	Experiential-Learning 26. 16	PSY-MEC	Does	CBL,CD, D-BED
CO1,CO3	Approach a newly diagnosed Hypertension	2	Experiential-Learning 26. 17	AFT-REC	Does	D-BED,C BL,CD

Practical Training Activity

Practical Training 26.1 : History taking in Cardio vascular disorders.

Total duration of the activity (1 hour).

Case-Based Learning

Introduction to the clinical case scenario related to a cardiovascular disorder (10 minutes)

Discussion of relevant history-taking points specific to the case (10 minutes)

Students interact in groups to take history from the case or role-play scenario (30 minutes)

Faculty-led debrief and discussion of findings with clinical reasoning (10 minutes)

Practical Training 26.2 : General and systemic examination in Cardio vascular diseases

Total duration of the activity (1 hour)

Case-Based Learning, Demonstration Bedside

Introduction to the clinical case scenario should be done by the faculty to orient students toward cardiovascular symptoms and signs (10 minutes)

The procedure for general and systemic examination will have to be explained by the faculty, highlighting key clinical findings in cardiovascular diseases (10 minutes)

A demonstration of general and systemic examination should be conducted on a real or simulated patient under the guidance of the faculty (10 minutes)
Students will have to perform general and systemic examination based on the case, following correct methods and protocols at the bedside (20 minutes)
Findings should be discussed and the faculty should provide feedback to improve examination skills and clinical reasoning (10 minutes)

Practical Training 26.3 : Different types of chest pain

Total duration of the activity (2 hours).

Case Diagnosis, Case-Based Learning

An introduction to the types and clinical relevance of chest pain should be given by the faculty to the students (15 minutes)

Students will have to be divided into two groups and assigned different clinical case scenarios representing various causes of chest pain (10 minutes)

A detailed explanation of the steps in history taking and physical examination should be done by the faculty before group activity begins (10 minutes)

Each group should be instructed to carry out case-based history taking focusing on characteristics, location, radiation, duration, and associated symptoms of chest pain (25 minutes)

Students should be guided to perform a targeted physical examination for their respective cases under faculty supervision (25 minutes)

Group-wise case findings and clinical impressions should be discussed and summarized for better clinical understanding (20 minutes)

Faculty will have to provide final clarification, reinforce the differential diagnosis approach, and conclude the session (15 minutes)

Practical Training 26.4 : The basic murmur and read ECG changes in congenital heart diseases.

Total duration of the activity (1 hour).

Case-Based Learning, Demonstration Lab, Lab Report Interpretation

An introduction to congenital heart diseases and the importance of murmur and ECG findings should be given by the faculty (10 minutes)

Video clippings demonstrating various congenital heart murmurs and their clinical relevance will have to be shown to the students (10 minutes)

The ECG patterns and abnormalities associated with common congenital heart diseases should be explained through audiovisual aids (10 minutes)

Students should be instructed to observe and note the clinical findings and correlate them with the given case scenarios (15 minutes)

Discussion of the observed murmurs and ECG features should be done with faculty guidance to enhance diagnostic understanding (10 minutes)

A brief summary and clarification of doubts by the faculty should be done to reinforce learning outcomes (5 minutes)

Practical Training 26.5 : Case study in tetralogy of Fallot.

Total duration of the activity (1 hour).

Case Diagnosis, Case-Based Learning, Demonstration Bedside, Lecture with Video clips

An overview of Tetralogy of Fallot including pathophysiology and key clinical signs should be explained by the faculty (10 minutes)

Video clippings demonstrating physical examination findings in Tetralogy of Fallot have to be shown to the students (10 minutes)

The students should be instructed to carefully observe the signs such as cyanosis, clubbing, murmur characteristics, and squatting posture (10 minutes)
 Discussion of case-based video scenarios should be conducted to guide clinical reasoning and correlation (10 minutes)
 Students should be asked to summarize the observed findings and relate them to the diagnosis with faculty feedback (10 minutes)
 Faculty should reinforce key points and clarify doubts raised by students (10 minutes)

Practical Training 26.6 : The types of Heart failure and clinical manifestations

Total duration of the activity (2 hours).
 Problem-Based Learning, Team Project Work
 An introduction to the classification and pathophysiology of heart failure should be provided by the faculty (15 minutes)
 Students should be divided into two groups and given specific heart failure types (e.g., systolic vs diastolic, left vs right heart failure) for discussion (15 minutes)
 Each group has to review clinical case scenarios related to heart failure manifestations and work collaboratively (20 minutes)
 Key clinical signs and symptoms (e.g., dyspnea, edema, fatigue, orthopnea) should be identified and discussed by the students (20 minutes)
 Each group should present their findings, explaining their reasoning and conclusions about the type of heart failure (20 minutes)
 Faculty should moderate discussion and clarify concepts with real-life examples and reinforce understanding (15 minutes)
 Summary and feedback session should be conducted to consolidate knowledge and assess student learning (15 minutes)

Practical Training 26.7 : The relevant investigations to arrive the diagnosis in a patient with heart failure.

Total duration of the activity (2 hours).
 Case Diagnosis, Case-Based Learning, Demonstration Bedside, Lab Report Interpretation
 An introduction on the importance of investigations in diagnosing heart failure should be delivered by the faculty (15 minutes)
 Students should be divided into two groups and assigned a patient-based case for diagnostic evaluation (10 minutes)
 ECG findings relevant to heart failure (e.g., LVH, arrhythmias, ischemia) should be demonstrated and interpreted by students (20 minutes)
 Biochemical and hematological markers (e.g., CBC, electrolytes, renal function) should be reviewed and interpreted by students (20 minutes)
 Cardiac markers (e.g., BNP, Troponins) and their diagnostic implications should be discussed through sample lab reports (15 minutes)
 Radiological investigations (e.g., chest X-ray, echocardiogram) should be demonstrated or shown through case images and interpreted by students (20 minutes)
 Each group should summarize the diagnostic process and justify the most likely diagnosis using collected data (10 minutes)
 Faculty should provide feedback and clarify concepts, reinforcing the diagnostic workflow (10 minutes)

Practical Training 26.8 : Clinical features of the cardiac valvular regurgitation and stenosis .

Total duration of the activity (2 hours).

Case Diagnosis, Case-Based Learning, Demonstration Bedside

An introduction about valvular heart diseases and their hemodynamic effects should be delivered by the faculty (10 minutes)

Students should be divided into two groups and patient cases representing valvular stenosis and regurgitation should be assigned (10 minutes)

General cardiovascular examination (pulse, BP, JVP, etc.) should be performed by each group under supervision (20 minutes)

Focused auscultation to identify key murmurs of stenosis and regurgitation should be demonstrated and practised (20 minutes)

Case-based discussion should be held where groups analyze and compare their findings (20 minutes)

Students should document the differentiating features and prepare diagnostic notes (10 minutes)

Each group should present their case findings with clinical reasoning to differentiate between stenosis and regurgitation (15 minutes)

Faculty should conclude the session by reinforcing the diagnostic approach and correcting any misconceptions (15 minutes)

Practical Training 26.9 : Clinical manifestations of arrhythmia.

Total duration of the activity (2 hours).

Lecture with Video clips

A brief introduction about arrhythmia, its classification, and etiological factors should be given by the faculty (15 minutes)

Students should be divided into two groups for observation and analysis (5 minutes)

Video clips showing various types of arrhythmias such as atrial fibrillation, ventricular tachycardia, and bradyarrhythmias should be shown (20 minutes)

Live demonstration or previously recorded bedside observations should be presented for real-patient correlation (20 minutes)

Students should observe and record key clinical features and compare them with those in normal rhythm cases (15 minutes)

Both groups should discuss and differentiate each type of arrhythmia based on rhythm pattern, rate, and clinical symptoms (20 minutes)

Students should interpret the observed ECG patterns with the help of faculty guidance (10 minutes)

Each group should present one arrhythmia case and summarize its aetiology and manifestation (10 minutes)

Faculty should wrap up with clarification of doubts and reinforcement of the clinical importance of recognizing arrhythmias early (5 minutes)

Practical Training 26.10 : Basic murmur and ECG changes in cardiac diseases.

Total duration of the activity (2 hours).

Case-Based Learning, Demonstration Lab, Lab Report Interpretation

Introduction to cardiac murmurs and common ECG changes should be explained by the faculty (15 minutes)

Demonstration of heart sounds and murmurs using audio tools or simulators should be done in the lab (15 minutes)

ECG machine operation and lead placement should be demonstrated to the students (15 minutes)

Students should be divided into two groups and instructed to observe ECG strips with abnormal findings under supervision (20 minutes)
 Each group should interpret ECG changes based on clinical history and correlate with murmur findings (20 minutes)
 Students should present their interpretation and reasoning to the faculty as part of a case-based discussion (20 minutes)
 Faculty should provide feedback and summarize the key learning points related to murmur and ECG interpretation (15 minutes)

Practical Training 26.11 : Approach to Hypertensive emergencies

Total duration of the activity (1 hour).
 Case Diagnosis, Case-Based Learning, Demonstration Bedside, Problem-Solving Method, Team-Based Learning
 Brief overview of hypertensive emergencies, including definitions and classifications, should be given by the faculty (10 minutes)
 Students should be divided into teams and instructed to evaluate a simulated case of hypertensive emergency using bedside parameters (5 minutes)
 Each team should be guided to identify red flag symptoms and signs in hypertensive crisis (10 minutes)
 Hands-on demonstration on checking BP using appropriate technique and assessing end-organ damage should be done (10 minutes)
 Students should be guided in writing a structured referral letter for hypertensive emergencies with necessary clinical details (10 minutes)
 Training should be given to prepare a discharge summary with key information such as diagnosis, interventions, medications, and follow-up advice (10 minutes)
 Each group should present their case findings and reasoning process to the class for feedback and discussion (5 minutes)

Practical Training 26.12 : Lifestyle modification in Hypertension.

Total duration of the activity (2 hours).
 Demonstration, Discussions, Lecture with Video clips, Team Project Work, Team-Based Learning
 Introduction to hypertension and the role of lifestyle modification should be explained by the faculty (10 minutes)
 Students should be divided into two groups and each group will be assigned specific lifestyle areas (weight reduction, sodium restriction, physical activity) (10 minutes)
 Each group should be guided to script patient education content relevant to their assigned theme (15 minutes)
 Students should be instructed to design and record a short educational video demonstrating correct lifestyle practices in hypertension (30 minutes)
 Faculty should supervise and guide students during recording to ensure medical accuracy and effective communication (20 minutes)
 Groups should present their videos to peers and receive feedback on content clarity, accuracy, and patient-friendliness (15 minutes)
 Discussion should be initiated on how lifestyle modifications can be practically introduced and maintained in real-life scenarios (10 minutes)
 Conclude the session with key takeaway messages to reinforce the importance of patient education in hypertension management (10 minutes)

Practical Training 26.13 : Procedure to measuring the blood pressure.

Total duration of the activity (1 hour).
 Case-Based Learning, Demonstration Bedside

Introduction to blood pressure, components, and clinical significance should be explained by the faculty (10 minutes)

Demonstration of the correct method to measure blood pressure using a sphygmomanometer should be done at the bedside (10 minutes)

Students should be divided into small groups and each member will be instructed to perform blood pressure measurements on their peers under supervision (15 minutes)

Faculty should observe and correct any errors while students measure BP, calculate pulse pressure and mean arterial pressure (10 minutes)

Students should be instructed to document and compare normal vs abnormal findings and relate it to the patient's clinical context (10 minutes)

The session should be concluded with clarification of doubts and a recap of key steps in blood pressure measurement (5 minutes)

Experiential learning Activity

Experiential-Learning 26.1 : Read a 12 lead ECG

Total duration of the activity (2 hours)

Case-Based Learning, Lab Report Interpretation

An introduction to the principles of ECG reading including axis determination, rate, rhythm, wave intervals, and segment abnormalities should be delivered by the faculty to begin the session. (15 minutes)

PG scholars should be grouped into teams of two to three members and each team should be given real or simulated ECG reports along with relevant clinical scenarios. (10 minutes)

Each team should begin ECG interpretation by analyzing heart rate, rhythm regularity, and axis deviation as the first step in systematic evaluation. (15 minutes)

Detailed examination of P waves, PR interval, QRS complex, ST segments, and T waves should be carried out by the teams with focus on identifying any abnormalities. (20 minutes)

The ECG findings should be correlated with the clinical symptoms provided in the case scenarios such as chest pain, syncope, palpitations, or breathlessness. (20 minutes)

Each team should compare normal and abnormal ECG patterns including identification of myocardial infarction, atrial fibrillation, ventricular tachycardia, heart blocks, or electrolyte imbalance. (20 minutes)

Teams should be guided to interpret lab ECG reports critically and support their diagnosis with clinical reasoning during a short discussion with the faculty. (10 minutes)

Each team should prepare a structured report summarising the ECG findings, interpretation, clinical correlation, and provisional diagnosis. (5 minutes)

Reports should be submitted to the concerned faculty for feedback and evaluation at the end of the session. (5 minutes)

Experiential-Learning 26.2 : Procedure for defibrillator usage

Total duration of the activity (2 hours)

Demonstration on Model, Simulation

An introduction on the types of cardiac arrhythmias that require defibrillation and the basic principles behind defibrillator usage should be delivered by the faculty. (10 minutes)

A detailed demonstration of the defibrillation procedure including equipment checks, pad placement, energy selection, safety measures, and post-shock care should be

performed on a simulation model. (15 minutes)

PG scholars should be divided into teams of two to three members and assigned simulation-based scenarios such as ventricular fibrillation, pulseless ventricular tachycardia, or cardiac arrest requiring defibrillation. (15 minutes)

Each team should perform the defibrillation procedure step by step under supervision, ensuring adherence to safety protocols and correct sequence. (25 minutes)

The clinical indications and contraindications for defibrillator use should be reviewed and discussed with each team to reinforce understanding. (15 minutes)

Advanced features of defibrillators such as AED mode, synchronized cardioversion, and monitoring functions should be briefly introduced and demonstrated. (15 minutes)

Common errors in defibrillator usage and troubleshooting techniques should be discussed using interactive questioning and scenario-based learning. (10 minutes)

Each team should prepare a structured report summarising the indications, procedure performed, critical steps, and any difficulties encountered during simulation. (10 minutes)

Reports should be submitted to the concerned faculty for evaluation and feedback to conclude the activity. (5 minutes)

Experiential-Learning 26.3 : Systemic examination in bed side clinical teaching.

Total duration of the activity (2 hours)

Case-Based Learning, Demonstration Bedside

An introductory briefing on the purpose and importance of a comprehensive systemic examination in clinical diagnosis should be provided by the faculty. (10 minutes)

PG scholars should be divided into small teams of two to three members and assigned a clinical case relevant to cardiovascular or multisystem involvement. (10 minutes)

Each team should begin the examination by recording vital signs such as pulse, blood pressure, respiratory rate, and temperature, followed by assessment of jugular venous pressure and peripheral pulses. (20 minutes)

Detailed cardiac examination should be demonstrated and practiced including inspection, palpation of the precordium, auscultation of heart sounds, and identification of any murmurs. (20 minutes)

Examination of the eyes including conjunctiva and fundoscopy should be carried out to identify signs of anemia, cyanosis, hypertension, or systemic disease. (10 minutes)

Respiratory examination should be performed to check for crepitations, bronchial breath sounds, or reduced air entry which may support cardiac or pulmonary causes. (15 minutes)

Abdominal examination should follow with focus on identifying distension, hepatomegaly, or splenic palpation which may provide evidence of right heart failure or systemic illness. (15 minutes)

Relevant laboratory reports if provided in the case scenario should be interpreted to correlate with clinical findings and support diagnosis. (10 minutes)

Each team should summarize their findings, arrive at a provisional diagnosis, and plan further investigation or management. (5 minutes)

A structured report detailing examination findings, interpretation of lab results, and final diagnosis should be submitted to the concerned faculty. (5 minutes)

Experiential-Learning 26.4 : Patient with cardiovascular disorders to diagnose and further care

Total duration of the activity (1 hour)

Case-Based Learning, Demonstration Bedside

An introduction to the systematic clinical approach for cardiovascular assessment should be delivered by the faculty to set the foundation. (5 minutes)

PG scholars should be grouped into teams of two to three members and assigned a patient case presenting with cardiovascular symptoms. (5 minutes)

Each team should begin the examination by recording the patient's general condition including pulse rate, blood pressure, respiratory rate, jugular venous pressure, and peripheral pulses. (10 minutes)

Examination of the cardiovascular system should be demonstrated and practised, including inspection, palpation of the apex beat, auscultation of heart sounds, and identification of murmurs. (10 minutes)

Related systemic examinations such as inspection of the conjunctiva and fundoscopy for signs of cardiovascular involvement should be performed and discussed. (7.5 minutes)

Pulmonary examination should be conducted to assess signs of pulmonary congestion or effusion secondary to cardiac dysfunction. (7.5 minutes)

Abdominal examination should be included with special attention to distension, liver size, and splenic palpation to assess possible right heart failure or infective endocarditis. (7.5 minutes)

Each team should consolidate their findings and prepare a provisional diagnosis along with a plan for further evaluation or care. (5 minutes)

A structured report including clinical findings, diagnosis, and suggested care plan should be submitted to the concerned faculty. (2.5 minutes)

Experiential-Learning 26.5 : Incidence and relative frequency of congenital malformations.

Total duration of the activity (1 hour)

Library Session, Mobile Learning

A short orientation on the objectives of the activity and examples of common congenital malformations such as neural tube defects, cleft lip and palate, and cardiac anomalies should be provided by the faculty. (5 minutes)

Students should explore textbooks, public health data, and indexed journal articles available in the library to collect accurate statistics on the incidence and frequency of congenital malformations in various populations. (20 minutes)

Mobile-based learning tools and online medical databases should be accessed to retrieve the latest data and compare global versus regional statistics. (15 minutes)

Collected data should be analyzed and organized by each scholar or group to highlight the most common types of congenital malformations along with their relative frequency and possible etiological correlations. (10 minutes)

A structured summary report presenting the findings with proper references should be prepared by each student or team. (5 minutes)

Reports should be submitted to the concerned faculty for academic evaluation and feedback. (5 minutes)

Experiential-Learning 26.6 : The aetiology of congenital heart diseases

Total duration of the activity (1 hour)

Library Session, Mobile Learning, Self-directed learning

An introductory note outlining the key objectives and recommended sources for self-directed learning should be shared by the faculty. (5 minutes)

Relevant textbooks, indexed journals, and online databases should be explored by PG scholars individually or in small teams to collect information on genetic, environmental, maternal, and infectious causes of congenital heart diseases. (20 minutes)

Mobile-based learning resources such as academic apps or online repositories should be utilized to supplement information with the most recent epidemiological updates. (15 minutes)

Each scholar or team should organize the gathered information under defined subheadings such as chromosomal abnormalities, maternal health factors, teratogens, and familial inheritance patterns. (10 minutes)

A concise report summarising the various etiological factors and relevant data references should be prepared by each participant or group. (5 minutes)

Reports should be submitted to the concerned faculty for review, feedback, and academic assessment. (5 minutes)

Experiential-Learning 26.7 : Overview of persistent ductus arteriosus and coarctation of aorta

Total duration of the activity (1 hour)

Symposium

An introductory session should be conducted by the faculty to present the embryological basis and clinical relevance of PDA and coarctation of the aorta. (10 minutes)

A guest lecture by a pediatric cardiologist or senior faculty should be delivered, providing detailed insights into the pathophysiology, signs and symptoms, diagnostic approach, and treatment options of these conditions. (30 minutes)

Interactive discussion and clarification of doubts from PG scholars should be encouraged following the lecture to deepen understanding and clinical application. (10 minutes)

Each team or individual student should summarize key points from the lecture and discussion in a structured format highlighting differences and similarities between PDA and coarctation. (5 minutes)

Reports containing these summaries along with a brief reflection on clinical implications should be submitted to the concerned faculty for review and feedback. (5 minutes)

Experiential-Learning 26.8 : Valvular heart diseases and heart failure

Total duration of the activity (1 hour)

Case Diagnosis, Case-Based Learning, Demonstration Bedside, Early Clinical Exposure

A brief introduction to the clinical significance of blood pressure measurement and its alterations in valvular heart disease and heart failure should be given by the faculty to set the context. (10 minutes)

Students should be divided into small groups of 2-3 scholars each for focused group discussions. (5 minutes)

Each group should discuss the techniques for accurate blood pressure measurement, emphasizing common errors and best practices. (10 minutes)

Groups should analyse clinical cases or scenarios involving valvular heart disease and heart failure to identify and discuss typical alterations in blood pressure. (15 minutes)

Each group should propose the most effective solutions or management strategies for blood pressure abnormalities in these conditions, based on clinical reasoning. (10 minutes)

minutes)

Groups should prepare a summary report outlining key points discussed, alterations identified, and recommended interventions. (5 minutes)

Reports should be submitted to the faculty for review and feedback. (5 minutes)

Experiential-Learning 26.9 : CPR - Cardio pulmonary resuscitation

Total duration of the activity (2 hours)

Demonstration on Model, Simulation

A brief introduction on the importance and indications of CPR should be provided by the faculty to establish the clinical relevance. (10 minutes)

Students should be divided into small teams of 2-3 scholars each for effective hands-on participation. (5 minutes)

Each team should perform a complete CPR demonstration on the manikin, including chest compressions, rescue breaths, and airway management techniques, under faculty supervision. (60 minutes)

Faculty should provide real-time feedback and correct techniques to ensure proper performance of CPR. (25 minutes)

A group discussion on common mistakes, challenges, and best practices in CPR should be conducted to reinforce learning. (10 minutes)

Each team should prepare and submit a report detailing the CPR procedure performed, key learning points, and reflections on the skill development. (10 minutes)

Experiential-Learning 26.10 : case presentation in Heart failure

Total duration of the activity (1 hour)

Case Diagnosis, Case-Based Learning, Demonstration Bedside

An introduction on the clinical importance of peripheral pulse examination in heart failure should be given by the faculty to set the learning context. (5 minutes)

Students should be assigned patients with various causes of heart failure to observe and examine peripheral pulses including pulse volume, character, quality, and variation. (15 minutes)

Each student or group should prepare and present their assigned case to the class, emphasizing the key findings related to peripheral pulse characteristics in heart failure. (20 minutes)

During the presentation, students should demonstrate the peripheral pulse examination techniques at the bedside or through video recordings to enhance practical understanding. (10 minutes)

Faculty and peers should engage in discussion on the clinical correlation of pulse findings with underlying heart failure etiology and pathophysiology. (5 minutes)

A detailed report summarizing the case presentation, pulse findings, and clinical interpretation should be prepared and submitted to the concerned faculty. (5 minutes)

Experiential-Learning 26.11 : The aetiology and types of Valvular Heart diseases

Total duration of the activity (2 hours)

Case-Based Learning, Team-Based Learning

An overview of normal cardiac valve anatomy and physiology should be presented by the faculty using brief diagrams or visual aids to set the clinical context. (10 minutes)
 Videos or live case demonstrations illustrating various valvular heart diseases such as mitral stenosis, mitral regurgitation, aortic stenosis, and aortic regurgitation should be presented to students. (50 minutes)
 Students should be grouped into teams and asked to observe and identify key clinical features from the cases or video presentations such as heart sounds, murmurs, pulse characteristics, and associated signs. (10 minutes)
 Each team should compare the observed features with those of a normal healthy individual to understand pathological deviations and altered physiology. (20 minutes)
 Discussion within the teams should be encouraged to classify the valvular heart diseases based on their etiology such as rheumatic, degenerative, congenital, or infective causes. (15 minutes)
 Each team should summarize their observations, classification of valvular disorders, and clinical comparisons in a structured report. (10 minutes)
 Reports should be submitted to the concerned faculty for academic evaluation and feedback. (5 minutes)

Experiential-Learning 26.12 : Guest lecture on classification of cardiac dysrhythmias

Total duration of the activity (2 hours)
 Symposium
 An introduction to the topic and objectives of the session should be given by the faculty to provide an overview of cardiac dysrhythmias. (10 minutes)
 A guest lecture by an expert in cardiology should be delivered, focusing on the classification of dysrhythmias into bradyarrhythmias, tachyarrhythmias, regular and irregular rhythms. (40 minutes)
 Illustrative ECG tracings and real-life clinical examples should be presented during the lecture to enhance practical understanding. (20 minutes)
 PG scholars should be encouraged to ask questions and clarify doubts regarding the differentiation and identification of various dysrhythmias. (10 minutes)
 Small group discussions among PG teams should be conducted to reflect on the lecture content and relate it to clinical scenarios they have encountered. (15 minutes)
 Each team should summarize their understanding and create a classification chart or table based on rate and rhythm categories of dysrhythmias. (15 minutes)
 A report consolidating key points from the lecture, group discussion, and classification framework should be prepared by each team. (5 minutes)
 Reports should be submitted to the concerned faculty for review and academic feedback. (5 minutes)

Experiential-Learning 26.13 : Investigations for the patient with cardiac emergency

Total duration of the activity (2 hours)
 Discussions, Library Session, Mobile Learning
 An introductory session should be conducted by the faculty to outline the types of cardiac emergencies and the importance of timely and accurate investigations. (40 minutes)
 PG scholars should be divided into small teams of two to three members and assigned different cardiac emergency scenarios such as myocardial infarction, arrhythmia, or acute heart failure. (5 minutes)

Each team should identify the initial bedside tests, followed by laboratory investigations and imaging modalities appropriate for their assigned condition. (20 minutes)
 Teams should be guided to use textbooks, reference journals, and mobile applications or e-resources to support the selection and sequencing of investigations. (10 minutes)
 Based on their findings, each team should design a clear and logical flow chart outlining the investigation pathway from presentation to diagnosis. (10 minutes)
 Each team should discuss their flow chart with faculty and peers to ensure clinical accuracy and practicality in emergency settings. (10 minutes)
 A final report including the flow chart and rationale behind the selected investigations should be prepared by each team and reports should be submitted to the concerned faculty for review and feedback at the conclusion of the session. (25 minutes)

Experiential-Learning 26.14 : Life style interventions to manage Hypertension

Total duration of the activity (1 hour)
 Library Session, Mobile Learning, Team-Based Learning
 Students should be provided with reading materials and resources on prevention and lifestyle modifications for Hypertension prior to the session. (10 minutes)
 Students should be divided into small teams to discuss the key lifestyle interventions such as diet, exercise, stress management, smoking cessation, and alcohol moderation. (15 minutes)
 Each team should develop strategies for promoting healthy lifestyle habits and periodic health screenings to prevent and manage Hypertension. (10 minutes)
 Students should role-play counseling sessions to practice communication skills aimed at reducing risk factors for Hypertension. (15 minutes)
 Faculty should guide the discussion and provide feedback on counseling techniques and content accuracy. (5 minutes)
 Students should prepare and submit a report summarizing lifestyle interventions and counseling approaches discussed. (5 minutes)

Experiential-Learning 26.15 : Complications and relevant investigations for Hypertension

Total duration of the activity (1 hour)
 Lab Report Interpretation
 The faculty should initiate the session with a brief introduction explaining the objective and clinical relevance of understanding complications and relevant investigations for hypertension (5 minutes)
 Students should be divided into small teams, and each team has to be given specific clinical scenarios along with relevant investigation reports such as blood pressure readings, ECG, echocardiogram findings, renal function tests, and fundoscopy images (10 minutes)
 Each team should analyze the provided clinical scenarios and investigation sets to identify potential complications of hypertension such as heart failure, stroke, kidney disease, and hypertensive retinopathy, and they should justify their conclusions with proper reasoning (15 minutes)
 Teams should be guided to present their interpretations and clinical conclusions to the entire group. The reasoning behind their diagnostic approach should be discussed, and additional insights should be clarified by the faculty (10 minutes)
 The faculty should provide a concise explanation summarizing the correct identification of complications, interpretation of investigations, common diagnostic errors, and key clinical considerations in the context of hypertension (10 minutes)

Each student group should be asked to compile their analysis, interpretation, and conclusions into a structured report. This report has to be submitted to the concerned faculty for review and feedback (5 minutes)

The session should be concluded with final remarks from the faculty, emphasizing the importance of timely recognition of hypertension complications and accurate interpretation of clinical investigations in patient management (5 minutes)

Experiential-Learning 26.16 : Systemwise complications in patient with Hypertension.

Total duration of the activity (2 hours)

Case Diagnosis, Case-Based Learning, Demonstration Bedside

The faculty should begin the session by introducing the objectives and importance of identifying target organ damage in hypertensive patients (5 minutes)

PG scholars should be divided into teams and assigned a patient (real or simulated) with hypertension for case-based bedside evaluation (5 minutes)

Each team should be guided to perform thorough history taking and physical examination focusing on identifying symptoms related to organ systems like cardiovascular, renal, neurological, and ocular complications (20 minutes)

System-wise complications should be reviewed by each team, and red-flag signs of target organ damage should be noted in a structured checklist format (15 minutes)

Necessary investigations (e.g., ECG, echocardiography, urine albumin, fundus examination, renal function tests) for each system should be discussed and proposed by the teams (15 minutes)

Faculty should demonstrate or explain the interpretation of common investigation findings indicating end-organ damage in hypertensive patients (15 minutes)

Each team should consolidate their findings into a case summary report, including identified complications, probable organ damage, and suggested investigations (20 minutes)

The prepared report should be presented to the faculty for group discussion, clarification, and corrections where needed (10 minutes)

The session should be concluded with the submission of the final written report by each team to the concerned faculty and a reflective discussion to reinforce the learning outcomes (10 minutes)

The faculty should provide feedback, address doubts, and summarize key system-wise complications and investigative approaches in hypertension (5 minutes)

Experiential-Learning 26.17 : Newly diagnosed Hypertension prevention

Total duration of the activity (2 hours)

Case Diagnosis, Case-Based Learning, Demonstration Bedside

The objectives of the session and the importance of early intervention in hypertension should be introduced by the faculty (5 minutes)

PG scholars should be divided into small teams and a newly diagnosed hypertension case scenario should be presented for analysis (5 minutes)

History taking and examination of a real or standardized patient with newly diagnosed hypertension should be demonstrated and then performed by the teams at the bedside (20 minutes)

Each team should identify risk factors, symptoms, and any associated lifestyle components from the patient history and record them in a structured format (15 minutes)

Faculty should guide PGs to formulate a Siddha-based prevention and management plan including dietary modifications, lifestyle advice, suitable formulations, yoga, and daily routine (15 minutes)

Each team should discuss among themselves and draft a customized patient education and preventive action plan, highlighting both Siddha and general health recommendations (15 minutes)

Team-wise presentations should be done to explain their proposed approach and preventive plan, supported by rationale and relevant references (20 minutes)

A role-play session should be performed by each team, demonstrating physician-patient interaction to counsel on hypertension prevention and lifestyle changes (15 minutes)

The session should be concluded with summary discussion, feedback from the faculty, clarification of doubts, and reinforcement of key learning points (10 minutes)

Modular Assessment

Assessment method	Hour
Conduct a structured modular assessment. Assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per the table 6C Theory essay writing questions of 1 question (10 Marks) Short answer questions of 2 questions (10 Marks) Practical model on “Demonstrate CPR in Adults” (10 Marks) Practical performance on “demonstrate defibrillator usage in simulation model (5 Marks) Case-based assessment on “Elicit history and evaluate different types of chest pain (15 Marks) • Provide a cardiac patient for clinical examination of the students. • Assess the student's history of taking clinical examination activities. • Assess the students on their ability to perform the Modern diagnostic methodology perfectly and the accuracy of their diagnosis. or Any practical in converted form can be taken for assessment (25 marks) and Any of the experiential as portfolio/ reflections /presentations can be taken as an assessment (25 marks)	4

Semester No : 4

Module 27 : Diseases of Respiratory System

Module Learning Objectives

(At the end of the module, the students should be able to)

Describe the causes, pathophysiology, clinical features, and complications of common neurological disorders, including conditions such as epilepsy, stroke, and neurodegenerative diseases.

Conduct thorough history-taking and perform detailed clinical examinations of the central nervous system, demonstrating the ability to assess neurological function systematically and accurately.

Identify appropriate diagnostic investigations to evaluate patients with neurological symptoms, including neuroimaging, EEG, and laboratory tests, and recognize the different types of epilepsy along with the initial approaches to their management.

M 27 Unit 1 Essentials of Neurology

27.1.1 Applied Anatomy and pathophysiology of Neurology 27.1.2 History, Clinical examination and diagnosis in the Central Nervous System. 27.1.3 Investigations for Neurological disorders.

References: 83,84,85,99,101,102,103,104,105,107,108,109,110,111,112,115,124,125,129,133,135,136,138,139,140,141,142,143,145,147

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Prepare an assignment on the functional anatomy and physiology of brain and cranial nerves.	6	Experiential-Learning 27.1	PSY-ADT	Does	ML,PBL,LS
CO1,CO3	Demonstrate general neurological clinical examination in a patient presenting with neurological symptoms.	1	Practical Training 27.1	PSY-GUD	Shows-how	CBL,D-BED
CO1,CO3	Distinguish the lesion based on upper motor neuron versus lower motor neuron.	1	Practical Training 27.2	PSY-GUD	Shows-how	BL,DIS,L_VC
CO1,CO3	Interpret diagnostic tests based on the specific diagnostic criteria, neurological factors	2	Practical	PSY-	Shows-	DL

	and radiological findings.		Training 27.3	ADT	how	
M 27 Unit 2 Infective Disease of CNS and Epilepsy 27.2.1 Meningitis 27.2.2 Encephalitis 27.2.3 Brain abscess 27.2.4 Neurosyphilis 27.2.5 Acute transverse myelitis 27.2.6 Seizures and Epilepsy References: 83,84,85,99,101,102,103,104,105,107,108,109,110,111,112,113,114,115,125,129,135,136,138,140,141,142,143,145,147						
3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Describe the causes, classification, pathogenesis, clinical features, stages, complications and investigations of meningitis.	2	Lecture	CC	Knows-how	L&PPT
CO1,CO3	Interpret the basic CSF fluid analysis findings.	2	Practical Training 27.4	PSY-ADT	Shows-how	CBL
CO1,CO3	Describe the causes, pathogenesis, clinical features, complications and investigations of encephalitis.	1	Experiential-Learning 27.2	AFT-VAL	Does	SY
CO1,CO3	Describe the causes, classifications, clinical features, complications and investigations of neurosyphilis.	1	Lecture	CC	Knows-how	L&PPT
CO1,CO3	Describe the aetiology, clinical features, stages, complications and special investigations of acute transverse myelitis.	1	Lecture	CC	Knows-how	L&PPT
CO1,CO3	Demonstrate the causes of epilepsy.	1	Practical Training 27.5	PSY-GUD	Shows-how	LS,DIS
CO1,CO3	Classify the types of epilepsy based on clinical presentations.	1	Practical Training 27.6	PSY-GUD	Shows-how	CBL,D-BED
CO1,CO3	Describe the symptoms and premonitory symptoms of various types of epilepsy.	1	Experiential-Learning 27.	PSY-GUD	Does	GBL

			3			
CO1,CO3	Present a case with Epilepsy.	2	Practical Training 27.7	PSY-MEC	Shows-how	CBL
CO1,CO3	Interpret basic EEG findings and understand emergency management of epilepsy.	1	Practical Training 27.8	PSY-MEC	Shows-how	LRI

M 27 Unit 3 Cerebrovascular Accident

27.3.1 Causes of Cerebrovascular accident (CVA) 27.3.2 History taking and clinical presentation 27.3.3 Differentiate the Upper Motor Neuron and Lower Motor Neuron lesions 27.3.4 Complications and diagnostic investigations for Cerebrovascular Accident (CVA)

References: 83,84,85,99,101,102,103,104,105,107,108,109,110,111,112,113,114,115,116,124,125,129,135,136,138,139,140,141,142,143,145,147

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Explain appropriate history taking including onset, progression, precipitating and aggravating relieving factors, associated symptoms that help to identify the cause of cerebrovascular accident.	2	Lecture	CAN	Knows-how	CBL
CO1,CO3	Generate the diagnosis regarding the anatomical position, nature and cause of the lesion based on clinical presentation and findings in CNS disorders.	2	Practical Training 27.9	PSY-MEC	Shows-how	PBL,CBL
CO1,CO3	Interpret the diagnostic investigations for cerebrovascular accident like CT and MRI.	3	Experiential-Learning 27.4	PSY-MEC	Does	D-BED,CBL
CO1,CO3	Identify the risk factors and proper differential diagnosis in CVA	1	Lecture	CC	Knows-how	L&PPT
CO1,CO3	Differentiate ischemic,hemorrhagic and embolic stroke based on clinical presentation.	1	Practical Training 27.10	PSY-MEC	Shows-how	BL,D-BED

CO1,CO3	Present the cases with ischemic,hemorrhagic and embolic stroke.	4	Experiential-Learning 27.5	AFT-VAL	Does	CBL,D-BED,CD
CO1,CO3	Present a case with Transient Ischemic stroke (TIA)	2	Practical Training 27.11	PSY-GUD	Shows-how	CBL,D-BED,CD,PBL
CO1,CO3	Describe complications, prevention and risk management in CVA.	3	Experiential-Learning 27.6	PSY-GUD	Does	PBL,TBL

M 27 Unit 4 Neurodegenerative Diseases

27.4.1 Parkinson Disease 27.4.2 Alzheimer's Disease (Primary degenerative dementia) 27.4.3 Amyotrophic Lateral sclerosis 27.4.4 Multiple sclerosis

References: 83,84,85,99,101,102,103,104,105,107,108,109,111,112,113,114,115,116,124,125,128,135,136,138,139,140,141,142,143,145,147

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Summarize the overview, pathophysiology, clinical features, five stages diagnostic criteria of parkinson disease.	1	Lecture	CC	Knows-how	L&PPT
CO1,CO3	Present a case with Parkinson's disease.	2	Practical Training 27.12	PSY-GUD	Shows-how	D-BED,C D,CBL
CO1,CO3	Describe the symptoms and classification (Cortical, Subcortical, Pseudodementia) and management of dementia.	1	Experiential-Learning 27.7	PSY-MEC	Does	PBL
CO1,CO3	Summarize overview, pathophysiology, clinical features of amyotrophic lateral sclerosis.	2	Lecture	CC	Knows-how	L&PPT
CO1,CO3	Describe the aetiology, pathophysiology, clinical presentations, 4 types and	1	Experiential-	AFT-	Does	TBL

	complications of multiple sclerosis.		Learning 27.8	VAL		
M 27 Unit 5 Disorders of Muscle & Myasthenia Gravis 27.5.1 Muscular dystrophies 27.5.2 Muscular hypertrophies 27.5.3 Myasthenia gravis References: 83,84,85,99,101,102,103,104,105,107,108,109,110,111,112,113,114,115,116,124,125,129,135,136,138,139,140,141,142,143,145,147						
3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Describe the classifications, progressive onset, clinical presentations, specific investigations of muscular dystrophies.	1	Experiential-Learning 27.9	CC	Does	PBL,PrBL
CO1,CO3	Differentiate the Duchenne type, Becker type and Gowers types of Muscular dystrophies clinically	2	Practical Training 27.13	PSY-MEC	Shows-how	DIS,TBL, BL,L_VC
CO1,CO3	Present a case with muscular dystrophy.	2	Experiential-Learning 27.10	PSY-MEC	Does	D-BED
CO1,CO3	Describe the classifications, clinical presentations, specific Investigations of Muscular Hypertrophy	1	Experiential-Learning 27.11	PSY-GUD	Does	PBL,CBL
CO1,CO3	Summarize the overview, aetiology, pathophysiology, clinical features, particular signs and investigations for myasthenia gravis.	1	Experiential-Learning 27.12	PSY-GUD	Does	PBL,DIS
CO1,CO3	Interpret basic investigations for myasthenia gravis.	1	Experiential-Learning 27.13	PSY-ADT	Does	TBL

Practical Training Activity

Practical Training 27.1 : General neurological clinical examination in a patient presenting with neurological symptoms.

Total duration of the activity (1 hour)

Case-Based Learning, Demonstration Bedside

The procedure will be explained by the faculty to the students and they are instructed to follow the same under their guidance (10 minutes)

Students will perform history taking and clinical examination in a patient presenting with neurological symptoms under faculty supervision (30 minutes)

Discussion and clarification of clinical findings will be conducted by the faculty (10 minutes)

Students will be instructed to prepare and submit a report summarizing the case study and clinical examination to the concerned faculty (10 minutes)

Practical Training 27.2 : The lesion based on upper motor neuron versus lower motor neuron.

Total duration of the activity (1 hour)

Blended Learning, Discussions, Lecture with Video clips

The procedure will be explained by the faculty to the students and they are instructed to follow the same under their guidance (10 minutes)

Students will be instructed to observe the clinical signs and symptoms of upper motor neuron versus lower motor neuron lesions through video clips (20 minutes)

Students will discuss and compare the observed clinical features under faculty supervision (15 minutes)

Questions and clarifications will be addressed by the faculty (10 minutes)

Students will be instructed to prepare and submit a report summarizing their observations and discussions to the concerned faculty (5 minutes)

Practical Training 27.3 : Diagnostic tests based on the specific diagnostic criteria, neurological factors and radiological findings.

Total duration of activity (2 hours)

Demonstration Lab

The procedure will be explained by the faculty and students will be instructed to follow the steps under supervision (20 minutes)

Students will perform hands-on training of various diagnostic procedures relevant to CNS disorders (60 minutes)

Students will interpret the results of diagnostic tests including neurological and radiological findings (20 minutes)

Students will be instructed to prepare and submit a detailed report on the procedures performed and test interpretations to the concerned faculty (20 minutes)

Practical Training 27.4 : The basic CSF fluid analysis findings.

Total duration of the activity (2 hours).

Case-Based Learning

The procedure will be explained by the faculty to the students and they are instructed to follow the same under their guidance (15 minutes)
 Students will be divided into two groups and instructed to identify abnormal CSF fluid findings (30 minutes)
 Each group will correlate the abnormal findings with clinical symptoms and discuss their interpretations (40 minutes)
 Questions and clarifications will be addressed by the faculty during the session (20 minutes)
 Students will be instructed to prepare and submit a report summarizing their findings and correlations to the concerned faculty (15 minutes)

Practical Training 27.5 : The causes of epilepsy.

Total duration of the activity (1 hour).
 Discussions, Library Session
 The procedure will be explained by the faculty to the students and they are instructed to follow the same under their guidance (10 minutes)
 Students will be asked to review the literature on the causes of epilepsy during a library session (20 minutes)
 Students will be divided into groups and instructed to discuss and identify the causes of epilepsy based on their literature review (15 minutes)
 Questions and clarifications will be addressed by the faculty during the discussion (10 minutes)
 Students will be instructed to prepare and submit a report summarizing their findings on the causes of epilepsy to the concerned faculty (5 minutes)

Practical Training 27.6 : The types of epilepsy based on clinical presentation.

Total duration of the activity (1 hour).
 Case-Based Learning, Demonstration Bedside
 The procedure will be explained by the faculty to the students and they are instructed to follow the same under their guidance (10 minutes)
 Students will be divided into groups and instructed to discuss various types of epilepsy based on clinical presentations (15 minutes)
 Each group will classify the types of epilepsy according to clinical features and share their findings (15 minutes)
 Students will be required to ask questions and clarify doubts during the discussion under faculty supervision (10 minutes)
 Students will be instructed to prepare and submit a report summarizing the classification and discussion to the concerned faculty (10 minutes)

Practical Training 27.7 : Case presentation on Epilepsy.

Total duration of the activity (2 hours).
 Case-Based Learning
 An introduction and overview of epilepsy including types, clinical signs, and differential diagnosis will be explained by the faculty (15 minutes)
 Students will be divided into two groups and instructed on the structure and approach of case presentation (10 minutes)
 Group 1 will present a short case on epilepsy including history, symptoms, clinical examination, and provisional diagnosis (25 minutes)
 Group 2 will present another case of epilepsy with a focus on variation in presentation or subtype (25 minutes)

Each group will be required to ask questions and discuss findings from the other group's case (15 minutes)
Faculty will provide feedback and summarize the important points regarding diagnosis and clinical approach to epilepsy (15 minutes)
Students will be instructed to prepare and submit an individual report summarizing the case presentation and discussion (15 minutes)

Practical Training 27.8 : Basic EEG findings and emergency management of epilepsy.

Total duration of the activity (1 hour).
Lab Report Interpretation
An introduction to EEG basics and common abnormal waveforms will be explained by the faculty (10 minutes)
A demonstration of sample EEG reports showing epileptic activity will be presented and explained (10 minutes)
Students will be grouped and instructed to identify and interpret abnormal EEG findings from case-based EEG reports (15 minutes)
The correlation between clinical symptoms and EEG abnormalities will be discussed with guided interpretation (10 minutes)
Emergency management strategies in epilepsy will be discussed briefly by the faculty (10 minutes)
Students will be instructed to prepare and submit a brief written report interpreting the EEG findings concerning the clinical scenario (5 minutes)

Practical Training 27.9 : The diagnosis regarding anatomical position, nature and cause of the lesion based on clinical presentation and findings in CNS disorders.

Total duration of the activity (2 hours).
Case-Based Learning, Problem-Based Learning
An overview of CNS lesion diagnosis including anatomical considerations and symptom correlation will be explained by the faculty (15 minutes)
A sample clinical case will be demonstrated with emphasis on eliciting findings and deriving a diagnosis (15 minutes)
Students will be divided into two groups and each group will be assigned clinical cases for team-based analysis (20 minutes)
Students will be guided to identify the anatomical site of the lesion based on symptoms and examination findings (15 minutes)
Students will be instructed to derive the probable cause and nature of the lesion through guided clinical reasoning (15 minutes)
Faculty will facilitate group-wise presentations and discussion of diagnostic reasoning (20 minutes)
A summary discussion highlighting key diagnostic principles and patterns will be led by the faculty (10 minutes)
Students will be directed to prepare and submit a written report comparing lesion types, positions, and etiologies based on clinical findings (10 minutes)

Practical Training 27.10 : Ischemic, hemorrhagic and embolic stroke differentiation based on clinical presentation.

Total duration of the activity (1 hour).
Blended Learning, Demonstration Bedside
An introduction to types of stroke and their clinical relevance will be explained by the faculty (10 minutes)
Video clips demonstrating ischemic, hemorrhagic, and embolic stroke presentations will be shown and key clinical signs will be highlighted (15 minutes)

Students will be instructed to compare and contrast the clinical features of each stroke type as observed in the videos (10 minutes)
Faculty will initiate a discussion to reinforce distinguishing points and clarify doubts (10 minutes)
Students will be guided to prepare a comparative summary report based on clinical signs and submit it to the concerned faculty (15 minutes)

Practical Training 27.11 : Case presentation on Transient Ischemic Attack (TIA)

Total duration of the activity (2 hours).
Case Diagnosis, Case-Based Learning, Demonstration Bedside, Problem-Based Learning
Introduction and clinical overview of Transient Ischemic Stroke will be explained by the faculty (15 minutes)
Students will be divided into two groups and a clinical case of suspected TIA will be assigned to each group (10 minutes)
Each group will perform history taking and neurological examination under faculty supervision (25 minutes)
The groups will identify and document the relevant signs and symptoms of TIA for presentation (15 minutes)
Each group will present their long case findings including diagnostic reasoning and clinical interpretation (25 minutes)
The faculty will guide a comparative discussion on the presentations and correct clinical approach (15 minutes)
Students will be instructed to submit a written report summarising the case presentation and key learnings (15 minutes)

Practical Training 27.12 : Case presentation on Parkinson's disease in bedside/OPD.

Total duration of the activity (2 hours).
Case Diagnosis, Case-Based Learning, Demonstration Bedside
Introduction and briefing about Parkinson's disease and the approach to bedside case presentation will be done by the faculty (15 minutes)
Students will be divided into two groups and each group will be assigned a patient under faculty supervision (10 minutes)
Each group will perform clinical history taking and neurological examination focusing on signs of Parkinsonism (25 minutes)
The findings from history and examination will be discussed within each group and key points will be prepared for presentation (15 minutes)
Each group will present the long case findings including differential diagnosis and clinical reasoning (25 minutes)
The faculty will guide a discussion comparing both presentations and provide feedback on the clinical approach (15 minutes)
Students will be instructed to write and submit a report summarising the clinical case of Parkinson's disease with findings and reflections (15 minutes)

Practical Training 27.13 : Clinical presentation of the Duchenne type, Becker type and Gowers types of Muscular dystrophies

Total duration of the activity (2 hours).
Blended Learning, Discussions, Lecture with Video clips, Team-Based Learning
Introduction and clinical overview of muscular dystrophies will be explained by the faculty (15 minutes)

Video clips showing Duchenne muscular dystrophy will be played and key features will be highlighted (20 minutes)
 Video demonstration of Becker-type muscular dystrophy will be observed and differences will be noted (20 minutes)
 Video showing Gowers' sign and its relevance in muscular dystrophy will be played and discussed (15 minutes)
 Students will be divided into two groups and each group will compare and list distinguishing clinical features (20 minutes)
 Each group will present their findings and engage in faculty-led discussion for clarification (15 minutes)
 Students will be instructed to write and submit a brief report comparing Duchenne, Becker, and Gowers types (15 minutes)

Experiential learning Activity

Experiential-Learning 27.1 : Functional anatomy and physiology of brain and cranial nerves.

Total duration for activity : 6 hours
 Library Session, Mobile Learning, Problem-Based Learning
 An introduction to the objectives and scope of the assignment on brain and cranial nerve anatomy and physiology should be given by the faculty. (20 minutes)
 Students should be guided to utilize library resources and mobile learning tools to gather detailed information on the applied anatomy and physiology of the brain and cranial nerves. (120 minutes)
 A problem-based learning session should be conducted where students analyze clinical cases related to cranial nerve dysfunction to correlate anatomy and physiology with clinical relevance. (90 minutes)
 Students should collaborate in groups to discuss findings and organize the gathered information into a structured assignment format. (60 minutes)
 Faculty should provide ongoing support and feedback during the assignment preparation phase to clarify doubts and suggest additional references. (30 minutes)
 Students should finalize and submit a comprehensive report/assignment on the functional anatomy and physiology of brain and cranial nerves to the concerned faculty. (40 minutes)

Experiential-Learning 27.2 : The causes, pathogenesis, clinical features, complications and investigations of encephalitis.

Total duration :1 hour
 Symposium
 An introduction to encephalitis and its clinical significance should be given by the faculty to set the context. (10 minutes)
 A guest expert should deliver a detailed lecture covering causes including infectious and non-infectious etiologies, pathogenesis, clinical features with neurological signs, complications, and relevant investigations such as CSF analysis and neuroimaging. (40 minutes)
 A brief interactive question and answer session should be conducted by the guest expert and faculty to clarify concepts and deepen understanding. (5 minutes)
 Students should be instructed to prepare and submit a comprehensive report summarizing the lecture content and their learning outcomes to the concerned faculty. (5 minutes)

Experiential-Learning 27.3 : The symptoms and premonitory symptoms of various types of epilepsy.

Total duration :1 hour

Game-based learning

Pre-class materials including videos and selected readings on the types of epilepsy and their associated symptoms should be shared with students in advance. Students should review these materials to prepare for the in-class activity (10 minutes)

The faculty should initiate the session with a brief introduction summarizing the classification of epilepsy and explaining the clinical relevance of differentiating between seizure types (10 minutes)

Students should be divided into small teams, and each team has to be provided with clinical scenario-based game cards representing different types of epilepsy. The game cards should include clues related to patient history, symptoms, and examination findings (10 minutes)

Each team should analyze their assigned game cards, identify key symptoms, premonitory signs, and relevant clinical features, and correctly classify the type of epilepsy depicted in the scenario. Teams should also match their cases to the appropriate seizure classification (10 minutes)

A competitive game-based quiz or matching activity should be conducted where teams should be challenged to quickly identify specific features such as aura, automatisms, motor and sensory manifestations, and postictal states, earning points for correct answers and reasoning (10 minutes)

At the end of the session, each team should prepare a summary report consolidating their case analyses, classifications, and key learning points from the game. This report has to be submitted to the concerned faculty for review and feedback (10 minutes)

Experiential-Learning 27.4 : Read the appropriate diagnostic investigations for cerebrovascular accident like CT and MRI.

Total duration of the activity (3 hours)

Case-Based Learning, Demonstration Bedside

An introduction to neuroimaging modalities and their relevance in cerebrovascular accident (CVA) diagnosis should be given by the faculty. (15 minutes)

Students should be divided into small teams and CT and MRI brain images showing various types of strokes should be distributed for interpretation. (20 minutes)

The basic principles of reading CT and MRI brain, including identification of infarcts, hemorrhages, midline shift, and edema, should be explained and demonstrated. (25 minutes)

Each team should analyze provided CT and MRI images and identify the type of stroke, location of lesion, and stage of progression under faculty guidance. (30 minutes)

Teams should correlate imaging findings with clinical symptoms and discuss possible complications based on the identified abnormalities. (25 minutes)

Each team should prepare a concise summary of their image interpretation including diagnosis, justification, and possible management plan. (30 minutes)

All teams should present their findings to the faculty and peer group, allowing clarification and discussion. (20 minutes)

Students should compile and submit a final report on the interpreted cases, including annotated image highlights and conclusions. (15 minutes)

Experiential-Learning 27.5 : Case presentation on ischemic, hemorrhagic and embolic stroke.

Total duration of the activity (4 hours)

Case Diagnosis, Case-Based Learning, Demonstration Bedside

An introductory briefing on the classification, pathophysiology, and clinical features of ischemic, hemorrhagic, and embolic stroke should be presented by the faculty. (15 minutes)

Students should be divided into teams of 2–3 members and assigned stroke cases for presentation either in the OPD or at the bedside. (20 minutes)

Each team should perform history taking and detailed neurological examination of their assigned case under faculty supervision. (35 minutes)

Relevant investigations such as CT scan, MRI, ECG, and coagulation profile should be reviewed and interpreted in relation to the case. (30 minutes)

Each team should prepare a case report highlighting the diagnosis, differential diagnosis, stroke type classification, and immediate management plan. (40 minutes)

A structured bedside or classroom presentation should be made by each team demonstrating clinical signs and summarizing key findings. (35 minutes)

A faculty-moderated discussion should be held comparing clinical features, complications, prognosis, and treatment approaches of the three stroke types. (30 minutes)

Students should complete and submit a written report on their assigned case including history, examination, investigations, diagnosis, and management summary. (35 minutes)

Experiential-Learning 27.6 : Complications, prevention and risk management in CVA.

Total duration :3 hours

Problem-Based Learning, Team-Based Learning

An introductory overview of CVA including its types, risk factors, and complications should be presented by the faculty to initiate the session. (15 minutes)

Students should be divided into small teams, and each team should be provided with a different CVA case scenario to evaluate complications and risk factors. (20 minutes)

Each team should identify acute and chronic complications associated with CVA in their given scenario and list them systematically. (20 minutes)

A risk assessment strategy including modifiable and non-modifiable risk factors should be developed by each team and shared with the group. (25 minutes)

Teams should then formulate a prevention plan focusing on primary, secondary, and tertiary preventive measures for CVA. (25 minutes)

Management plans should be discussed by each team covering acute interventions, rehabilitation, and long-term follow-up. (25 minutes)

Faculty should moderate a group discussion where teams present their case findings, prevention strategies, and risk management approaches. (30 minutes)

Each team should prepare and submit a written report summarizing the complications, prevention, and management plan for the CVA case they worked on. (20 minutes)

Experiential-Learning 27.7 : The symptoms and classification (Cortical, Subcortical, Pseudodementia) and management of dementia.

Total duration :1 hour

Problem-Based Learning

A clinical case involving symptoms of memory loss and behavioral changes should be presented to initiate the session. (10 minutes)

Students should be grouped into small teams and the case should be analysed using problem-based learning methods to identify symptom patterns. (10 minutes)

Teams should classify the case as cortical, subcortical, or pseudodementia based on the clinical features and discuss distinguishing criteria. (10 minutes)

Each team should outline a diagnostic approach including clinical assessment, neuroimaging, and cognitive testing. (10 minutes)
 Teams should discuss evidence-based management strategies for the identified dementia type, including pharmacologic and supportive care. (10 minutes)
 A brief group presentation of their conclusions and reasoning should be done by each team. (5 minutes)
 A summary report detailing classification, diagnostic steps, and management plan should be submitted by each team. (5 minutes)

Experiential-Learning 27.8 : The aetiology, pathophysiology, clinical presentations, 4 types and complications of multiple sclerosis.

Total duration :1 hour
 Team-Based Learning
 The faculty should begin the session by outlining the objectives of the activity and dividing the PG scholars into two teams. Each team should be informed about the topics to be covered in the PowerPoint presentation including etiology, pathophysiology, clinical presentations, types, and complications of multiple sclerosis (5 minutes)
 Both teams should be given time to collaborate and prepare their respective PowerPoint presentations. Relevant textbooks, online resources, and recent research articles should be referred to during the preparation phase (15 minutes)
 Each team should present their PowerPoint to the group. The first team should be assigned to present the aetiology, pathophysiology, and clinical features of multiple sclerosis. (15 minutes)
 The second team should be assigned to present the four types of multiple sclerosis (relapsing-remitting, secondary progressive, primary progressive, and progressive-relapsing) and its complications. (15 minutes)
 Following the presentations, the faculty should conduct a brief discussion, summarizing key points, clarifying doubts, and encouraging inter-team feedback. Any misconceptions should be corrected during this session (5 minutes)
 At the end of the activity, both teams should submit a brief written report to the concerned faculty summarizing the content presented and key takeaways from the discussion. (5 minutes)

Experiential-Learning 27.9 : The classifications, progressive onset, clinical presentations, specific Investigations of muscular dystrophies.

Total duration :1 hour
 Problem-Based Learning, Project-Based Learning
 A brief clinical scenario based on a patient with suspected muscular dystrophy will have to be presented by the faculty to initiate critical thinking and diagnostic approach among PG scholars. This will serve as the introduction and problem base. (5 minutes)
 PG scholars will be grouped and each group will have to identify the type of muscular dystrophy based on classification criteria such as mode of inheritance, age of onset, and pattern of muscle involvement. These classifications should be discussed within the group and presented briefly. (10 minutes)
 A timeline progression of symptom onset and pattern will have to be outlined by each group. Clinical course features such as proximal vs distal muscle involvement, pseudohypertrophy, and gait abnormalities should be interpreted from the given case. (10 minutes)
 Clinical presentations with systemic involvement such as cardiac, respiratory, or orthopedic complications should be discussed, and appropriate red flags will have to be

highlighted in context of different types of muscular dystrophies. (10 minutes)

Specific investigations like CPK levels, genetic testing, electromyography, and muscle biopsy should be identified and justified. Learners should present which tests should be done and at what stage, relevant to the suspected subtype. (10 minutes)

Each group will have to propose a mini-project idea or clinical audit plan related to muscular dystrophy diagnosis or management strategy, to be implemented in the department as part of project-based learning. (10 minutes)

A summary discussion should be done by the faculty highlighting the key takeaways, clarifying doubts, and linking theoretical concepts to clinical practice. Feedback should also be collected from learners. (5 minutes)

Experiential-Learning 27.10 : Case presentation on muscular dystrophy.

Total duration :2 hours

Demonstration Bedside

The faculty should begin the session by introducing the clinical case of a patient with suspected muscular dystrophy. The objective of the case presentation and the expected learning outcomes should be explained to all PG scholars (10 minutes)

The assigned PG scholar should begin the case presentation by taking a detailed history from the patient, including age of onset, progression of symptoms, family history, and any previous investigations or treatments. Key history points related to muscular dystrophy should be highlighted (20 minutes)

A general and systemic examination focusing on neuromuscular signs should be performed by the presenting student under faculty supervision. Muscle bulk, tone, power, reflexes, and gait abnormalities should be carefully examined and demonstrated to the group (25 minutes)

The presenting student should summarize the findings and formulate a provisional diagnosis, discussing the clinical reasoning behind it. Other differential diagnoses should also be considered briefly (15 minutes)

The specific investigations required for confirming muscular dystrophy, such as creatine kinase levels, EMG, genetic testing, and muscle biopsy should be discussed. Their interpretation and relevance to the case should be explained (20 minutes)

The faculty should then guide a discussion on the classification of muscular dystrophies and the clinical type observed in the presented case, such as Duchenne, Becker, or limb-girdle muscular dystrophy. Clinical criteria for diagnosis should be emphasized (15 minutes)

All students should be given the opportunity to ask questions, clarify doubts, and engage in brief peer discussion regarding the presentation and findings. Common mistakes in examination and history-taking should be corrected (10 minutes)

At the end of the session, the presenting student and the observing group should prepare a report summarizing the history, clinical findings, diagnosis, investigations, and learning points. This report should be submitted to the concerned faculty for review and feedback (5 minutes)

Experiential-Learning 27.11 : The classifications, clinical presentations, specific Investigations of Muscular Hypertrophy

Total duration :1 hour

Case-Based Learning, Problem-Based Learning

The faculty should begin the session by presenting a brief introduction to a case scenario involving a patient with muscular hypertrophy. Background details including patient age, onset of symptoms, and functional difficulties should be shared for context (5 minutes)

Students should be divided into small groups. Each group should watch or review a pre-assigned video or material on the types and classifications of muscular hypertrophy, such as physiological, pathological, and compensatory types. Key features should be noted (10 minutes)

Each group should then discuss the clinical presentations seen in the case, including muscle enlargement, weakness, stiffness, or any functional limitations. Symptoms specific to different types of hypertrophy should be identified (10 minutes)

Groups should be guided to list and interpret specific investigations that help in diagnosing muscular hypertrophy, such as creatine kinase levels, EMG, muscle biopsy, and imaging techniques like MRI. The relevance of each investigation should be explained (10 minutes)

Based on the case and findings, students should work in teams to propose a possible classification and diagnosis. They should also discuss differential diagnoses that must be ruled out through further investigations or clinical clues (10 minutes)

Each group should prepare and present a short summary of their discussion and conclusion. The reasoning behind their diagnosis and investigation choices should be explained. Faculty and peers should provide feedback or raise questions (10 minutes)

The students should be asked to prepare a brief report summarizing their understanding of the classifications, clinical features, and investigations of muscular hypertrophy. This report should be submitted to the concerned faculty for review and feedback after the session (5 minutes)

Experiential-Learning 27.12 : An overview of myasthenia gravis.

Total activity duration: 1 hour

Discussions, Problem-Based Learning

The faculty should start the session with a short introduction and share a case of a patient with symptoms of myasthenia gravis. The background and main complaints of the patient should be explained to all PG scholars (5 minutes)

Students should be divided into small groups. Each group should talk about the possible causes and how the disease happens in the body. Books or articles may be used to help the discussion (10 minutes)

Each group should discuss the symptoms that are usually seen in patients with myasthenia gravis. They should focus on both full-body and eye-related symptoms like tiredness with activity (10 minutes)

The groups should then talk about the specific signs seen in myasthenia gravis, such as drooping eyelids, double vision, and weakness that gets worse with use. Other similar diseases should also be mentioned (10 minutes)

The groups should discuss common tests used to diagnose myasthenia gravis. These include blood tests for antibodies, nerve tests, and scans to check for problems in the thymus gland. The meaning of test results should also be discussed (10 minutes)

Each group should present what they discussed. They should explain how they linked the symptoms, signs, and test results to understand the disease. Other students can ask questions for more clarity (10 minutes)

The faculty should end the session by going over the main points, clearing any confusion, and reminding students how to think through a case like this in real practice (5

minutes)

Experiential-Learning 27.13 : Interpretation on investigations for myasthenia gravis.

Total duration : 1 hour

Team-Based Learning

The faculty should initiate the session with a brief introduction explaining the objective and clinical relevance of interpreting investigations for myasthenia gravis (5 minutes)

Students should be divided into small teams, and each team has to be given a set of investigation reports such as antibody test results (anti-AChR, anti-MuSK), nerve conduction studies, and repetitive nerve stimulation findings (10 minutes)

Each team should analyze the provided investigation set and interpret the findings to determine whether they support a diagnosis of myasthenia gravis, along with justification (15 minutes)

Teams should be guided to present their interpretation to the whole group. The reasoning behind their conclusions should be discussed, and additional points should be clarified by the faculty (10 minutes)

The faculty should provide a concise explanation summarizing correct interpretations, common diagnostic pitfalls, and key differentiating points in the context of myasthenia gravis investigations (10 minutes)

Each student group should be asked to compile their findings and conclusions into a short report. This report has to be submitted to the concerned faculty for review and feedback (5 minutes)

The session should be concluded with brief remarks from the faculty, reinforcing the importance of accurate interpretation and collaborative learning in clinical diagnosis (5 minutes)

Modular Assessment

Assessment method

Hour

Conduct a structured modular assessment. Assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per the table 6C

4

Long answer questions of 1 question (10 Marks)

Short answer questions of 2 questions (10 Marks)

Spotters on “ Know to read basic EEG findings” (5 Marks)

Case-based assessment (15 Marks)

“Case presentation on Ischaemic hemorrhagic and embolic stroke”

- Provide a patient for clinical examination of the student
- Assess the student's case sheet writing and clinical examination activities

- Monitor the student on performing modern diagnostic tools perfectly and the arrival of diagnosis
- Oral Examination on CNS.

Clinical examination (10 Marks)

or

Any practical in converted form can be taken for assessment (25 marks)

and

Any of the experiential as portfolio/ reflections /presentations can be taken as an assessment (25 marks)

Module 28 : Haematology and nutritional deficiencies

Module Learning Objectives

(At the end of the module, the students should be able to)

Describe the functional anatomy and physiology of blood cells, investigation of diseases of blood, presenting problems in blood diseases, causes, clinical assessment, and investigation of various types of anaemia.

Conduct clinical examinations in blood disease and nutritional diseases.

Identify the diagnostic tests in micronutrients, minerals, vitamin deficiencies and protein energy malnutrition diseases.

M 28 Unit 1 Essentials of Haematology

28.1.1 Functional anatomy and physiology of blood cells

28.1.2 Clinical examination in blood diseases

28.1.3 Investigations of blood diseases

References: 83,84,85,99,101,102,103,104,105,107,108,109,110,111,112,113,114,115,125,129,135,136,138,139,140,141,142,143

3A	3B	3C	3D	3E	3F	3G
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CO1,CO3	Prepare a minor project work on the functional anatomy and physiology of blood cells.	1	Practical Training 28.1	PSY-ADT	Shows-how	TPW
CO1,CO3	Interpret different red cell appearances.	1	Experiential-Learning 28.1	PSY-ADT	Does	ML,LS
CO1,CO3	Interpret white blood cell results.	1	Experiential-Learning 28.2	PSY-ADT	Does	DL,LRI
CO1,CO3	Examine a patient with blood disease.	1	Practical Training 28.2	PSY-GUD	Shows-how	D-BED

M 28 Unit 2 Anemia

28.2.1 General approach to anemia 28.2.2 Iron deficiency anemia 28.2.3 Megaloblastic anemia 28.2.4 Haemolytic anemia 28.2.5 Sickle cell anemia 28.2.6 Thalassaemia

References: 83,84,85,99,101,102,103,104,105,107,110,111,112,113,114,115,124,125,129,133,135,136,138,139,140,141,142,143

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Describe the general considerations and classification of anemias by pathophysiology and mean cell volume, essentials of diagnosis of various types of anemias.	2	Practical Training 28.3	PSY-GUD	Shows-how	LRI,TBL,DIS
CO1,CO3	Examine a patient with anemia.	1	Practical Training 28.4	PSY-GUD	Shows-how	D-BED
CO1,CO3	Interpret the abnormalities in various investigations of anemia.	1	Experiential-Learning 28.3	PSY-ADT	Does	TBL,LRI,CBL,CD
CO1,CO3	Enumerate the anemia preventive action plan in anemic patient.	1	Lecture	CAN	Knows-how	L&PPT

CO1,CO3	Enumerate the complications of anemia in patients.	1	Experiential-Learning 28.4	AFT-VAL	Does	CBL,CD, D-BED
CO1,CO3	Diagnose and present the cases of iron deficiency anemia, megaloblastic anemia, sickle cell anaemia and thalassemias.	2	Practical Training 28.5	PSY-GUD	Shows-how	LRI
CO1,CO3	Demonstrate life style modification in anemia.	2	Lecture	CAN	Knows-how	L&PPT
CO1,CO3	Identify the need of blood transfusion in severe anemia.	1	Experiential-Learning 28.5	PSY-MEC	Does	DL
CO1,CO3	Describe the regulation of iron absorption, uptake and distribution in the body.	1	Lecture	CAN	Knows-how	L&PPT
CO1,CO3	Describe the cause of hemolytic anemia, red cell membrane defects.	2	Experiential-Learning 28.6	PSY-MEC	Does	BS,ML,LS
CO1,CO3	Describe the causes, clinical features and diagnostic features of sickle cell anemia and thalassemia.	1	Lecture	CAN	Knows-how	L&PPT
CO1,CO3	Assess the nutritional status by history taking and clinical examination in pregnancy and provide medical advice	2	Practical Training 28.6	PSY-GUD	Shows-how	CBL,CD
CO1,CO3	Observe the national program for anemia prevention.	1	Experiential-Learning 28.7	AFT-REC	Does	W,SY

M 28 Unit 3 Bleeding and Clotting Disorders

28.3.1 Ehlers-Danlos disease 28.3.2 Hereditary haemorrhagic telangiectasia 28.3.3 Scurvy 28.3.4 Idiopathic thrombocytopenic purpura 28.3.5 Haemophilia A 28.3.6 Haemophilia B (Christmas disease) 28.3.7 Von willibrand disease 28.3.8 Thrombotic thrombocytopenic purpura

References: 83,84,85,99,101,102,103,104,105,107,108,109,110,111,112,113,114,115,124,125,129,135,136,138,139,140,141,142,143

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Describe the disorders of primary hemostasis, vessel wall abnormalities.	2	Experiential-Learning 28.8	AFT-VAL	Does	BL,TBL,PER,ML
CO1,CO3	Describe thrombotic disorders, clinical manifestation of antiphospholipid syndrome, pentad finding of thrombotic thrombocytopenic purpura.	1	Lecture	CAN	Knows-how	L&PPT
CO1,CO3	Present a case with haemophilia.	1	Practical Training 28.7	PSY-MEC	Shows-how	BL,CD,CBL
CO1,CO3	Describe the causes and clinical features of coagulation disorders, classification of von willebrand disease.	2	Experiential-Learning 28.9	AFT-VAL	Does	PER,TBL,BL,ML

M 28 Unit 4 Essentials of Diet and Nutrition

28.4.1 Clinical signs due to nutritional deficiency 28.4.2 Assessment of nutritional status by dietary history 28.4.3 Assessment of nutritional status by clinical examination 28.4.4 Assessment of nutritional status by Laboratory test

References: 83,84,85,99,101,102,103,105,107,108,109,110,111,112,113,114,115,124,125,129,135,136,138,139,140,141,142,143

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Demonstrate the clinical signs of whole body due to nutritional deficiency.	2	Experiential-Learning 28.10	AFT-VAL	Does	CBL,D-BED
CO1,CO3	Assess the nutritional status by history taking and clinical examination of various systems with general examination.	1	Practical Training 28.8	PSY-MEC	Shows-how	CBL
CO1,CO3	Learn about the necessary investigations to find out the diagnosis in nutrition deficiency.	1	Lecture	CAN	Knows-	CBL

					how	
CO1,CO3	Educate diet and medical advice for preventive procedure in nutritional deficiency.	1	Experiential-Learning 28.11	AFT-VAL	Does	LS,ML
M 28 Unit 5 Nutritional Deficiencies 28.5.1 Protein-energy malnutrition 28.5.2 Marasmus 28.5.3 Kwashiorkor 28.5.4 Introduction to Vitamin deficiency 28.5.5 Beri-Beri 28.5.6 Pellagra 28.5.7 Xerophthalmia 28.5.8 Night blindness 28.5.9 Mineral deficiency 28.5.10 Micronutrient Deficiency References: 83,84,85,99,101,102,103,104,105,107,108,109,110,111,112,113,114,115,124,125,129,135,136,138,139,140,141,142,143						
3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Describe general considerations, essentials of diagnosis, pathophysiology and clinical findings in protein energy malnutrition disease.	2	Experiential-Learning 28.12	AFT-VAL	Does	PL,DIS,PER
CO1,CO3	Present a case with Marasmus.	1	Practical Training 28.9	PSY-GUD	Shows-how	CBL,CD
CO1,CO3	Present a case with Kwarshiorkar.	2	Practical Training 28.10	PSY-GUD	Shows-how	CBL,CD
CO1,CO3	Describe fat soluble vitamins and water soluble vitamins.	1	Lecture	CAN	Knows-how	L&PPT
CO1,CO3	Examine a patient with eye signs in vitamin A deficiency.	2	Practical Training 28.11	PSY-GUD	Shows-how	D,FV
CO1,CO3	Present a case with Pellagra.	2	Practical Training 28.1	PSY-GUD	Shows-how	CBL,CD

			2			
CO1,CO3	Present a case with Scurvy.	1	Practical Training 28.13	PSY-GUD	Shows-how	CBL,CD
CO1,CO3	Describe clinical findings of micronutrients deficiency.	1	Lecture	CAN	Knows-how	L&PPT
CO1,CO3	Construct nutrition deficiency preventive action plan.	1	Experiential-Learning 28.13	PSY-ORG	Does	D-M,D,T PW
CO1,CO3	Demonstrate lifestyle modification in nutritional deficiency.	1	Practical Training 28.14	PSY-ADT	Shows-how	EDU,PBL
CO1,CO3	Enumerate the national program for nutrition deficiency prevention.	1	Lecture	CC	Knows-how	L&PPT
CO1,CO3	Identify diet contain vitamins, minerals, micro nutrients.	2	Experiential-Learning 28.14	PSY-GUD	Does	PBL
CO1,CO3	Identify micro nutrients requirements in pregnancy and lactation.	2	Experiential-Learning 28.15	PSY-GUD	Does	FV,TPW, TBL
CO1,CO3	Summarize the overview and clinical findings of beriberi, xerophthalmia and night blindness.	2	Experiential-Learning 28.16	AFT-VAL	Does	CBL,CD
CO1,CO3	Demonstrate nutritional requirements, diet therapy for preventive measures.	2	Experiential-Learning 28.17	PSY-GUD	Does	RP

Practical Training Activity
Practical Training 28.1 : Minor project work on the functional anatomy and physiology of blood cells.
Total duration of the activity (1 hour) Team Project Work The procedure will be explained by the faculty to the students and they are instructed to follow the same under their guidance (10 minutes) Students will be asked to form teams and discuss the approach for preparing the minor project work on “Applied anatomy and physiology of blood cells” (15 minutes) Teams will conduct a literature review and gather relevant information for the project (20 minutes) Teams will organize their findings and prepare the project report (10 minutes) Students will be instructed to submit the completed project report to the concerned faculty (5 minutes)
Practical Training 28.2 : Clinical examination in blood disease.
Total duration of the activity (1 hour) Demonstration Bedside The procedure will be explained by the faculty to the students and they are instructed to follow the same under their guidance (10 minutes) Students will be instructed to examine the signs and features of blood diseases during bedside or OPD clinical examination (35 minutes) Faculty will conduct discussion and clarify observations made during the clinical examination (10 minutes) Students will be instructed to prepare and submit a report summarizing their clinical findings to the concerned faculty (5 minutes)
Practical Training 28.3 : Various types of anemias.
Total duration of the activity (2 hours) Discussions, Lab Report Interpretation, Team-Based Learning The procedure will be explained by the faculty to the students and they are instructed to follow the same under their guidance (40 minutes) Students will be divided into two groups and instructed to discuss various types of anaemias and their diagnosis by pathophysiology and mean cell volume (55 minutes) Groups will present their discussions and interpretations of lab reports on anaemia types (15 minutes) Faculty will address questions and clarify diagnostic essentials of different anaemia types (5 minutes) Students will be instructed to prepare and submit a report summarizing their discussion and findings to the concerned faculty (5 minutes).
Practical Training 28.4 : Long case presentations in bed side clinical teaching with documentation of previous anemia case sheets.
Total duration of the activity (1 hour)

Demonstration Bedside

The procedure will be explained by the faculty to the students and they are instructed to follow the same under their guidance (10 minutes)

Students will conduct case presentations in general OPD to assess the nutritional status of patients (20 minutes)

Long case presentations will be done in bedside clinical teaching through documentation and review of previous anaemia case sheets (25 minutes)

Students will be instructed to prepare and submit a report summarizing their clinical findings and case presentations to the concerned faculty (5 minutes)

Practical Training 28.5 : Iron deficiency anemia, megaloblastic anemia, sickle cell anaemia and thalassemias.

Total duration of the activity (2 hours)

Lab Report Interpretation

The faculty will explain the lab report interpretation procedure in detail to the students and provide clear instructions to be followed under their guidance (20 minutes).

Students will be divided into two groups and each group will observe clinical findings through live demonstrations, focusing on variations in laboratory results and their clinical significance (40 minutes).

Each group will engage in an in-depth discussion and analysis of the observed clinical findings, emphasizing the clinical presentation, differential diagnosis, and laboratory correlations (30 minutes).

The faculty will provide feedback to each group, clarifying doubts and summarizing key diagnostic features related to the various types of anaemia identified during the session (20 minutes).

Students will prepare and submit a brief report summarizing their observations, clinical interpretations, and key learning points to the concerned faculty for assessment (10 minutes).

Practical Training 28.6 : Assess the nutritional status by history taking and clinical examination in pregnancy and provide medical advice

Total duration of the activity (2 hours)

Case Diagnosis, Case-Based Learning

The procedure will be explained by the faculty to the students and they are instructed to follow the same under their guidance (40 minutes)

Students will be instructed to assess the nutritional status of pregnant women in OPD through history taking and clinical examination (55 minutes)

Faculty will facilitate discussion and guide medical advice related to nutritional status in pregnancy (10 minutes)

Students will be instructed to prepare and submit a report summarizing their assessments and advice to the concerned faculty (15 minutes)

Practical Training 28.7 : Case presentation in haemophilia.

Total duration of the activity (1 hour)

Blended Learning, Case Diagnosis, Case-Based Learning

The procedure will be explained by the faculty to the students and they are instructed to follow the same under their guidance (10 minutes)

Students will be instructed to observe the clinical changes of haemophilia through video clippings (30 minutes)
 A group discussion on the clinical features and diagnosis of haemophilia will be facilitated by the faculty (15 minutes)
 Students will be instructed to prepare and submit a report summarizing the case presentation and clinical observations to the concerned faculty (5 minutes)

Practical Training 28.8 : Nutritional status assessment.

Total duration of the activity (1 hour)
 Case-Based Learning
 The procedure will be explained by the faculty and necessary instructions have to be given to the students (10 minutes)
 Students have to take history and conduct general and systemic examinations to assess nutritional status in OPD cases (30 minutes)
 Case findings have to be discussed with faculty and peer-reviewed for feedback (10 minutes)
 A brief report on the case should be written and submitted to the concerned faculty (10 minutes)

Practical Training 28.9 : Case presentation in Marasmus.

Total duration of the activity (1 hour)
 Case Diagnosis, Case-Based Learning
 The procedure will be explained by the faculty to the students and necessary instructions should be given (10 minutes)
 Students should be instructed to observe clinical changes of Marasmus through video clippings (20 minutes)
 Discussion on identifying key signs and symptoms of Marasmus should be carried out under faculty guidance (15 minutes)
 A case summary and observation notes have to be written by the students (10 minutes)
 A final report should be submitted to the concerned faculty (5 minutes)

Practical Training 28.10 : Clinical presentation in scurvy.

Total duration of the activity (1 hour)
 Case Diagnosis, Case-Based Learning
 The procedure will be explained by the faculty to the students and instructions will have to be followed under their guidance (15 minutes)
 Students will have to be divided into two groups for the activity (5 minutes)
 Each group should be guided to discuss and prepare a short case presentation on scurvy based on history, signs, and clinical symptoms (20 minutes)
 Group-wise case presentations on scurvy will have to be done before the faculty for feedback and correction (15 minutes)
 A final report should be prepared and submitted to the concerned faculty by the students (5 minutes)

Practical Training 28.11 : Case presentation in Kwashiorkor.

Total duration of the activity (2 hours)

Case Diagnosis, Case-Based Learning

The procedure will be explained by the faculty to the students and the instructions should be followed accordingly (30 minutes)

Students should be guided to take detailed nutritional and medical history from the case (10 minutes)

Clinical examination of the patient with suspected Kwashiorkor should be done under supervision (35 minutes)

Case sheet writing including clinical features and preliminary diagnosis has to be completed (35 minutes)

Brief group discussion and clarification with faculty guidance should be done (5 minutes)

A final report should be prepared and submitted to the concerned faculty (5 minutes)

Practical Training 28.12 : Eye signs in vitamin A deficiency.

Total duration of the activity (2 hours)

Demonstration, Field Visit

The procedure will be explained by the faculty and instructions have to be followed under their supervision (15 minutes)

Students should be divided into two groups for effective observation and learning (5 minutes)

Students have to be posted in eye care settings and oriented to identify clinical eye signs associated with vitamin A deficiency (30 minutes)

Each group should examine and record the observed signs in suspected patients or clinical samples (45 minutes)

Group-wise discussion and consolidation of findings should be done under the guidance of the faculty (15 minutes)

Students will have to prepare and submit a detailed report of their observations and conclusions to the concerned faculty (10 minutes)

Practical Training 28.13 : Clinical presentation of pellagra.

Total duration of the activity (2 hours)

Case Diagnosis, Case-Based Learning

The procedure will be explained by the faculty to the students and instructions should be followed under their guidance (15 minutes)

Students will have to be divided into two groups for collaborative work (5 minutes)

Each group should be instructed to prepare a short case presentation on pellagra based on clinical features, causes, and diagnostic findings (40 minutes)

Group-wise case presentations should be conducted in front of the faculty and peer students for evaluation and discussion (45 minutes)

Students should prepare and submit an individual or group report to the concerned faculty summarizing the case findings and learning outcomes (15 minutes)

Practical Training 28.14 : Lifestyle modification in nutritional deficiency.

Total duration of the activity (1 hour).

Edutainment, Problem-Based Learning

The procedure will be explained by the faculty to the students and they will be instructed to follow the same under their guidance (10 minutes)
 Students will have to discuss the various lifestyle modifications related to common nutritional deficiencies (15 minutes)
 IEC materials on lifestyle modification in nutritional deficiency will have to be prepared by the students to create public awareness (25 minutes)
 A summary report of the activity should be submitted to the concerned faculty by the students (10 minutes)

Experiential learning Activity

Experiential-Learning 28.1 : Anatomy and physiology of different RBC's.

Total duration :1 hour.

Library Session, Mobile Learning

The procedure for studying the anatomy and physiology of different red blood cells (RBCs) should be explained by the faculty to the students. (10 minutes)

Students should be instructed to follow the explained procedure carefully under the guidance of the faculty to ensure thorough understanding. (5 minutes)

Students should engage with visual aids such as microscope slides, images, and videos to observe and learn about various RBC morphologies and their physiological significance. (20 minutes)

Students should apply their knowledge and experience of RBC anatomy and physiology to interpret different red cell appearances in diagnostic contexts through case examples or illustrations. (15 minutes)

Students should prepare a detailed report summarizing their observations, interpretations, and learning points on the anatomy and physiology of RBCs. (5 minutes)

The completed reports should be submitted to the concerned faculty for review and feedback. (5 minutes)

Experiential-Learning 28.2 : White blood cell results.

Total duration :1 hour.

Demonstration Lab, Lab Report Interpretation

The procedure for performing complete blood count (CBC) and peripheral blood smear examination should be explained by the faculty to the students. (10 minutes)

Students should be instructed to carefully follow the demonstrated procedure under faculty supervision to ensure accuracy and safety. (5 minutes)

Students should develop laboratory skills by performing CBC and preparing peripheral blood smears individually or in pairs under faculty guidance. (20 minutes)

Students should analyze and interpret the white blood cell counts and differentials obtained from their lab work, correlating with clinical scenarios where applicable. (15 minutes)

Students should compile their findings, including observed abnormalities and potential diagnoses, into a detailed report. (5 minutes)

The completed reports should be submitted to the concerned faculty for evaluation. (5 minutes)

Experiential-Learning 28.3 : Investigations of anemia.

Total duration of the activity (1 hour).

Case Diagnosis, Case-Based Learning, Lab Report Interpretation, Team-Based Learning

The procedure for interpreting anemia investigations should be explained by the faculty, including key parameters to observe in complete blood count, peripheral smear, serum ferritin, and other relevant tests. (10 minutes)

Students should be divided into teams and assigned various case lab reports with abnormal findings related to anemia for interpretation. (10 minutes)

Each team should analyze the provided lab data and identify the abnormalities, correlating them with clinical features of anemia under faculty guidance. (15 minutes)

Teams should discuss among themselves the possible causes and types of anemia based on their interpretations and prepare to present their findings. (10 minutes)

Each team should present their case interpretations, including diagnosis, abnormal test results, and clinical correlation to the faculty and peers for feedback. (10 minutes)

Students should compile and submit a detailed report summarizing their interpretations, clinical correlations, and conclusions from the team exercise. (5 minutes)

Experiential-Learning 28.4 : Complications of anemia.

Total duration:1 hour.

Case Diagnosis, Case-Based Learning, Demonstration Bedside

A clinical case of a patient with moderate to severe anemia will have to be presented by the faculty to initiate clinical reasoning and discussion about complications. The case should be used to trigger inquiry and active participation among PG scholars. (5 minutes)

PG scholars will have to identify and discuss various systemic complications associated with anemia, including cardiovascular, neurological, and immune-related effects, based on the patient's presentation. These findings should be correlated with the severity and type of anemia. (10 minutes)

The learners will have to perform a bedside assessment, including examination for pallor, tachycardia, orthostatic hypotension, and signs of heart failure. The findings should be interpreted in the context of anemia-related complications. (10 minutes)

Each group will have to analyze the diagnostic workup that should be done to evaluate secondary complications of anemia such as ECG for arrhythmia, echocardiography for heart strain, and laboratory markers for organ dysfunction. (10 minutes)

Based on the case, learners will have to explain which complications require urgent attention and should prioritize management strategies. This should be discussed within groups and presented. (10 minutes)

PG scholars will have to reflect on real patient cases from their wards where complications of anemia were observed and briefly share how the complications were managed. This sharing will help reinforce experiential understanding. (10 minutes)

A concluding session should be done by the faculty to summarize the complications discussed, reinforce key clinical signs to watch for, and emphasize early detection strategies. Feedback should be collected from the participants. (5 minutes)

Experiential-Learning 28.5 : Blood transfusion in severe anemia.

Total duration :1 hour.

Demonstration Lab

An introductory explanation on the clinical indications for blood transfusion in cases of severe anemia should be given by the faculty. (10 minutes)
 The basic procedure for ordering blood transfusion and identifying when transfusion is clinically necessary should be demonstrated in a lab setting. (10 minutes)
 The principles of blood grouping, Rh compatibility, and cross-matching of blood components should be explained. (10 minutes)
 Students should observe and follow the steps of preparing for a transfusion, including verification, consent, and monitoring protocols. (10 minutes)
 The differences between whole blood, packed red blood cells, platelets, and plasma components and their indications should be discussed. (10 minutes)
 A brief review session should be conducted to summarize key points and answer any student queries. (5 minutes)
 Students should submit a written report summarizing the procedure, clinical importance, and safety considerations of blood transfusion in severe anemia to the concerned faculty. (5 minutes)

Experiential-Learning 28.6 : Causes of hemolytic anemia, red cell membrane defects.

Total duration :2 hour.
 Brainstorming, Library Session, Mobile Learning
 An introductory session on hemolytic anemia and red cell membrane defects should be delivered by the faculty to provide the basic framework and clarify objectives. (15 minutes)
 The procedure for literature review and information gathering on various red cell membrane defects and types of hemolytic anemia should be explained by the faculty. (10 minutes)
 Students should be divided into two groups and each group should be assigned specific subtopics related to causes and types of hemolytic anemia, including hereditary spherocytosis, elliptocytosis, and paroxysmal nocturnal hemoglobinuria. (10 minutes)
 Students in both groups should conduct a literature search using textbooks, journals, and mobile learning tools to gather relevant data on the assigned topics. (30 minutes)
 Each group should compile and organize their findings, focusing on pathophysiology, diagnostic approaches, and clinical implications. (20 minutes)
 The groups should reconvene for a brainstorming and discussion session facilitated by the faculty, where key points from their research should be presented and compared. (25 minutes)
 A final summary report covering causes, mechanisms, and clinical relevance of hemolytic anemia and membrane defects should be prepared and submitted by each group to the concerned faculty. (10 minutes)

Experiential-Learning 28.7 : National program for anemia prevention.

Total duration :1 hour
 Symposium, Workshops
 An introduction on the burden of anemia and its public health significance should be given by the faculty. (10 minutes)
 An invited expert should deliver a talk on the national anemia prevention program including its objectives, target populations, and intervention strategies. (20 minutes)

The speaker should discuss implementation frameworks such as Iron and Folic Acid Supplementation (IFAS), weekly iron distribution, and deworming programs. (10 minutes)

The program structure including screening guidelines, monitoring protocols, and stakeholder responsibilities should be elaborated by the expert. (10 minutes)

A brief interactive Q&A session should be conducted for students to clarify doubts and deepen their understanding. (5 minutes)

Students should submit an individual report summarizing key components of the national anemia prevention program and their reflections on its relevance to clinical practice. (5 minutes)

Experiential-Learning 28.8 : The disorders of primary hemostasis, vessel wall abnormalities.

Total duration of the activity (2 hours)

Blended Learning, Mobile Learning, Presentations, Team-Based Learning

An introductory session should be conducted by the faculty to explain the concept of primary hemostasis, its components, and relevance in clinical medicine. (15 minutes)

Students should be divided into teams to explore different categories of primary hemostasis disorders such as thrombocytopenia, qualitative platelet defects, and vascular purpuras. (15 minutes)

Each team should utilize mobile resources and digital content to collect clinical features, diagnostic markers, and pathophysiology of their assigned disorder. (20 minutes)

A guided discussion should be facilitated by the faculty where students analyze differences between vessel wall abnormalities and platelet function defects. (15 minutes)

Each team should prepare and present a summary covering disease mechanisms, key diagnostic tests, and clinical findings. (25 minutes)

A brief interactive quiz or problem-based scenario should be discussed to reinforce key learning points. (15 minutes)

Students should participate in a wrap-up session conducted by the faculty to consolidate concepts and clarify doubts. (10 minutes)

A final report summarizing team discussions, presentations, and learning points should be submitted by students to the concerned faculty. (5 minutes)

Experiential-Learning 28.9 : Coagulation disorders, von willebrand disease.

Total duration :2 hours

Blended Learning, Mobile Learning, Presentations, Team-Based Learning

An introductory overview on coagulation physiology and common bleeding disorders should be delivered by the faculty. (40 minutes)

Students should be divided into small teams, and each team should be assigned a category of coagulation disorder (e.g., platelet disorders, clotting factor deficiencies, acquired coagulopathies). (10 minutes)

One team should focus specifically on von Willebrand disease and its classification into types 1, 2 (A, B, M, N), and 3, and summarize the key clinical differences. (25 minutes)

Teams should use mobile resources and clinical case references to identify the clinical features, diagnostic workup, and complications of their assigned conditions. (25 minutes)

Each team should prepare and give a short presentation summarizing their findings with emphasis on symptoms, diagnostic clues, and disease classification. (10 minutes)

A final summary should be given by the faculty highlighting the classification of von Willebrand disease and key points in recognizing coagulation disorders. (5 minutes)
Students should submit a concise report including key discussion points, disease classification, and diagnostic insights to the concerned faculty. (5 minutes)

Experiential-Learning 28.10 : Nutritional deficiency clinical signs.

Total duration : 2 hours

Case-Based Learning, Demonstration Bedside

An introduction on the importance of recognizing clinical signs associated with nutritional deficiencies should be provided by the faculty. (10 minutes)

Students should be grouped into teams and assigned a patient or clinical scenario related to nutritional deficiency for bedside evaluation. (10 minutes)

The basic systemic approach to clinical examination should be demonstrated by the faculty, including skin, hair, nails, oral cavity, eyes, musculoskeletal system, and neurological signs. (20 minutes)

Each team should perform a complete clinical examination under supervision, identifying visible and elicitable signs of nutritional deficiency. (30 minutes)

Students should be asked to correlate the observed signs with the underlying pathophysiology of various nutritional deficiencies such as vitamin, mineral, and protein-energy malnutrition. (20 minutes)

Each team should present their findings, including a brief discussion on the most likely nutritional disorder and possible preventive strategies. (15 minutes)

A summary of key signs and differentiating features should be discussed by the faculty to reinforce learning points. (10 minutes)

Students should prepare and submit a report highlighting the clinical signs observed, differential diagnosis, and preventive recommendations. (5 minutes)

Experiential-Learning 28.11 : Diet and medical advice for nutritional deficiency.

Total duration :1 hour

Library Session, Mobile Learning

An introduction on the role of diet and medical counseling in preventing nutritional deficiencies should be given by the faculty. (10 minutes)

The students should be guided on identifying common nutritional deficiencies and evidence-based dietary strategies. (10 minutes)

Students should be divided into small teams and assigned to prepare IEC (Information, Education, and Communication) materials focusing on dietary guidelines, supplementation, and preventive medical advice. (20 minutes)

Each team should design visually engaging and informative IEC materials using mobile learning tools and library resources. (10 minutes)

Students should display and briefly explain their IEC material to peers and faculty for review and feedback. (5 minutes)

Each team should submit a report summarizing the content of their IEC material, the rationale behind their approach, and key preventive messages. (5 minutes)

Experiential-Learning 28.12 : Protein energy malnutrition disease.

Total duration :2 hours

Discussions, Peer Learning, Presentations

An introductory overview of protein energy malnutrition and its public health significance should be delivered by the faculty. (40 minutes)
 Students should be divided into small peer groups and assigned key subtopics such as general considerations, diagnostic essentials, pathophysiology, and clinical manifestations. (25 minutes)
 Each group should review and discuss their assigned subtopic using provided literature or relevant clinical materials. (30 minutes)
 Each group should then present a summary of their discussion findings to the rest of the class. (10 minutes)
 A brief open-floor discussion should be facilitated by the faculty to consolidate key points and clarify any misconceptions. (10 minutes)
 Students should individually submit a concise report summarizing the core learning points discussed during the group session. (5 minutes)

Experiential-Learning 28.13 : Nutrition deficiency preventive action plan.

Total duration :1 hour
 Demonstration, Demonstration on Model, Team Project Work
 An introduction to the importance of nutritional deficiency prevention and public health implications should be given by the faculty. (10 minutes)
 A brief demonstration using visual aids or models should be conducted to highlight common nutritional deficiencies and their manifestations. (10 minutes)
 Students should be divided into teams (2-3 members per each team) and assigned the task of formulating a community-oriented preventive action plan targeting one major nutritional deficiency. (10 minutes)
 Each team should work collaboratively to identify causes, risk groups, preventive strategies, and implementation methods based on current public health guidelines. (15 minutes)
 Teams should present a summary of their proposed action plan to the group, followed by brief feedback and clarification by the faculty. (10 minutes)
 Each team should prepare and submit a written report of their nutrition deficiency preventive action plan to the concerned faculty. (5 minutes)

Experiential-Learning 28.14 : Diet contain vitamins, minerals, micro nutrients.

Total duration :2 hours
 Problem-Based Learning
 The faculty should begin the session by giving a brief orientation on the importance of balanced nutrition and the role of vitamins, minerals, and micronutrients in maintaining health. The objectives and expectations for the food pyramid model should be clearly explained. (10 minutes)
 Students should be grouped into small teams and each group should be assigned to gather dietary sources rich in specific nutrients such as Vitamin A, B-complex, C, D, calcium, iron, zinc, and iodine. (20 minutes)
 Each group should brainstorm and plan the layout for a food pyramid model, ensuring that it reflects various food groups along with their nutrient content in an appropriate hierarchical manner. (20 minutes)
 The groups should begin creating their physical or chart-based model using craft materials, labeled food images, and annotations to show nutritional content and health benefits. (30 minutes)

Faculty should supervise the model development and provide guidance or corrections wherever necessary. Students should also be encouraged to discuss their choices of food placement and nutrient importance. (15 minutes)

Each group should then briefly present their food pyramid model, explaining the placement of food items and highlighting the role of each nutrient included. Peer interaction and questions should be encouraged. (15 minutes)

All students should submit a concise report summarizing the nutrients included, sources, and the rationale behind the food pyramid design to the concerned faculty. (10 minutes)

Experiential-Learning 28.15 : Micro nutrients requirements in pregnancy and lactation.

The total duration : 2 hours

Field Visit, Team Project Work, Team-Based Learning

The faculty should begin the session by briefing the PG scholars about the objective and importance of micronutrient awareness during pregnancy and lactation. The two teams should be assigned topics on inorganic micronutrients and organic nutrients. (10 minutes)

Each team should be guided to prepare visual aids, charts, and IEC materials relevant to their assigned topics, including the role, sources, and deficiency signs of key micronutrients like iron, calcium, zinc, iodine, and folic acid. (20 minutes)

The teams should conduct the awareness camp at the selected field location (e.g., primary health centre, maternity ward, or community area). They should explain the importance of micronutrients in pregnancy and lactation to the target audience. (30 minutes)

Interactive sessions with pregnant and lactating women should be facilitated, during which PG scholars should answer queries and clarify doubts regarding diet and supplement usage. (25 minutes)

Faculty should observe the communication and presentation skills of each team, provide on-the-spot feedback, and ensure the accuracy of health education messages. (15 minutes)

Both teams should reconvene to reflect on the field experience, challenges faced, and learning outcomes. Key observations and public responses should be briefly discussed under faculty supervision. (10 minutes)

Students should be instructed to submit a team-wise written report summarizing their awareness activity, materials used, interaction details, and key findings. This report should be submitted to the concerned faculty. (10 minutes)

Experiential-Learning 28.16 : Beriberi, xerophthalmia, night blindness.

Total duration :2 hours

Case Diagnosis, Case-Based Learning

The faculty should begin the session with a brief introduction explaining the objective and significance of understanding nutritional deficiency disorders like beriberi, xerophthalmia, and night blindness. An outline of the session and clinical relevance should be provided. (10 minutes)

Students should be grouped into small teams and assigned specific case scenarios related to either beriberi, xerophthalmia, or night blindness. Each case should include a

basic history, symptoms, and limited findings for students to analyze. (15 minutes)

Each group should discuss the aetiology and clinical findings relevant to their assigned case. Emphasis should be given to nutritional background, presenting symptoms, and distinguishing features of the specific deficiency. (20 minutes)

Clinical signs such as peripheral neuropathy in beriberi, Bitot's spots in xerophthalmia, and poor night vision should be explored. Each group should identify how these signs help differentiate between the conditions. (20 minutes)

Students should then be guided to propose the most likely diagnosis for their case and outline the reasoning behind it. Required investigations to confirm the diagnosis and potential complications of untreated conditions should be discussed. (20 minutes)

Each group should present their case findings to the class, highlighting clinical reasoning, key symptoms, and diagnostic approach. Faculty should provide clarifications, corrections, and insights during each presentation. (20 minutes)

Faculty should summarize the session by comparing the discussed conditions, emphasizing prevention strategies through nutrition, and highlighting diagnostic red flags. (10 minutes)

At the end of the session, each student should be instructed to submit a brief report summarizing their case analysis, findings, and learning points for faculty evaluation. (5 minutes)

Experiential-Learning 28.17 : Nutritional requirements, diet therapy.

Total duration: 2 hours

Role Plays

The faculty should begin the session by introducing the objectives and providing a brief overview of the importance of understanding daily nutritional requirements and diet therapy in preventing nutritional deficiencies. PG scholars should be oriented to the roleplay format and expectations. (10 minutes)

Students should be divided into small groups, and each group should be assigned a specific nutritional topic such as protein-energy malnutrition, iron deficiency, vitamin deficiencies, or balanced diet planning. Roles such as patient, nutritionist, and health educator should be distributed among group members. (15 minutes)

Each group should prepare role play content based on their assigned topic. They should include daily nutritional requirements, sources of key nutrients, common dietary mistakes, and preventive strategies. Faculty guidance should be provided during preparation. (20 minutes)

Groups should perform their role plays before the class, showcasing patient scenarios and nutritional counseling sessions that highlight practical application of diet therapy and preventive education. Visual aids like charts or flux materials may be used to enhance the demonstration. (30 minutes)

After each role play, faculty should lead a brief discussion to highlight the key learning points, correct any misinformation, and reinforce effective counseling techniques demonstrated in the session. Peer feedback should also be encouraged. (20 minutes)

Students should be guided to observe the displayed flux materials summarizing daily nutritional requirements, food sources, and preventive measures. These materials should be reviewed and discussed for clarity and clinical application. (15 minutes)

At the end of the session, each student should be instructed to submit a short written report summarizing their learning from the role plays and the observed materials, which will be reviewed by the concerned faculty. (10 minutes)

Modular Assessment	
Assessment method	Hour
Conduct a structured modular assessment. Assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per the table 6C Long answer questions of 1 question (10 Marks) Short answer questions of 2 questions (10 Marks) Spotters on “ Peripheral blood smear specimen” (5 Marks) Case-based assessment (15 Marks) “Clinical examination in Anaemia” • Provide a patient for clinical examination of the student • Assess the student for the general examination of the student • Observe the student performing modern diagnostic methods for the arrival of the diagnosis Oral Examination (5 Marks) Practical Performance on “Blood and blood components matching in Blood transfusion” (5 Marks) or Any practical in converted form can be taken for assessment (25 marks) and Any of the experiential as portfolio/ reflections /presentations can be taken as an assessment (25 marks)	4
Semester No : 5	
Module 29 : Rheumatology and Endocrinology	
Module Learning Objectives (At the end of the module, the students should be able to)	
Describe the causes, pathophysiology, clinical features, investigations and complications of Rheumatological disorders and endocrinological diseases. Conduct the history-taking and clinical examinations of the Musculoskeletal system and general assessment of locomotor systems.	

Identify the specific diagnostic criteria and diagnostic tests to evaluate the patients with endocrinological symptoms and rheumatological symptoms

M 29 Unit 1 Essentials of Rheumatology

29.1.1 Applied Anatomy and pathophysiology of rheumatology 29.1.2 History, Clinical examination of the musculoskeletal system. 29.1.3 Investigations of Rheumatological disorders.

References: 83,84,85,99,101,102,103,104,105,107,108,109,110,111,112,113,114,115,124,125,134,135,136,138,139,140,141,142,143,148,150

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Prepare an assignment on the functional anatomy and physiology of musculoskeletal system.	1	Experiential-Learning 29.1	PSY-ADT	Does	LS,ML,S DL
CO1,CO3	Prepare a mini project work on pathophysiology findings with images and applied anatomy at rheumatology.	1	Experiential-Learning 29.2	PSY-ADT	Does	TPW,LS
CO1,CO3	Demonstrate history taking and clinical examination in a patient presenting with rheumatological symptoms.	1	Practical Training 29.1	PSY-GUD	Shows-how	CBL
CO1,CO3	Interpret diagnostic tests based on the specific diagnostic criteria, rheumatological factors and radiological findings.	1	Practical Training 29.2	PSY-ADT	Shows-how	DIS,LRI, PL
CO1,CO3	Analyze the pathophysiology of gout and pseudogout.	2	Experiential-Learning 29.3	PSY-ADT	Does	L_VC
CO1,CO3	Demonstrate life style modifications in gestational diabetes.	2	Experiential-Learning 29.	PSY-GUD	Does	ML,LS,T PW

M 29 Unit 2 Rheumatological Disorders

29.2.1 Systemic lupus erythematosus 29.2.2 Rheumatoid Arthritis, Reactive arthritis 29.2.3 Ankylosing spondylitis, Osteoarthritis 29.2.4 Gout, Pseudogout

References: 83,84,85,99,101,102,103,104,105,107,108,109,110,111,112,113,114,115,124,125,134,135,136,138,139,140,141,142,143,148,149,150

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Enumerate pathophysiology and clinical features of the systemic lupus erythematosus.	1	Lecture	CAN	Knows-how	L&PPT
CO1,CO3	Demonstrate american rheumatism association criteria and investigations for systemic lupus erythematosus.	2	Experiential-Learning 29.5	PSY-GUD	Does	SY,W
CO1,CO3	Summarize the overview, pathophysiology, clinical features, diagnostic criteria of rheumatoid arthritis.	2	Lecture	CAP	Knows-how	L,L&PPT
CO1,CO3	Demonstrate extra articular features and investigations of rheumatoid arthritis.	2	Experiential-Learning 29.6	PSY-GUD	Does	SDL,ML, LRI,LS
CO1,CO3	Present a case with Rheumatoid Arthritis.	2	Practical Training 29.3	PSY-GUD	Shows-how	CBL,X-Ray,LRI,D-BED,CD
CO1,CO3	Develop and communicate appropriate follow-up and monitoring plans for patients with rheumatologic conditions.	1	Practical Training 29.4	PSY-ADT	Shows-how	FV
CO1,CO3	Demonstrate an understanding of the impact of rheumatologic conditions on quality of life, well-being work and family.	2	Experiential-Learning 29.7	PSY-GUD	Does	TBL,FV

CO1,CO3	Summarize the overview, causes, clinical features, additional extra articular features and investigations of reactive arthritis (reiter's disease).	1	Lecture	CAN	Shows-how	L,L&PPT
CO1,CO3	Present a case with ankylosing spondylitis.	2	Practical Training 29.5	PSY-GUD	Shows-how	CD,X-Ray,CBL,LRI,D-BED
CO1,CO3	Present a case with osteo arthritis.	2	Practical Training 29.6	PSY-GUD	Shows-how	CBL,CD,LRI,X-Ray,D-BED
CO1,CO3	Detail the common and uncommon crystal associated arthritis, pathophysiology, causes of hyperuricemia, clinical features and investigations of Gout.	1	Lecture	CAN	Shows-how	CBL
CO1,CO3	Present a case with gout.	2	Practical Training 29.7	PSY-GUD	Shows-how	CD,CBL,LRI
CO1,CO3	Present a case with pseudogout.	2	Practical Training 29.8	PSY-GUD	Shows-how	CBL,LRI,CD
CO1,CO3	Interpret the radiological findings of RA, OA, gout and pseudogout.	2	Experiential-Learning 29.8	PSY-ADT	Does	LRI,X-Ray,CBL,CD

M 29 Unit 3 Thyroid and Adrenal Diseases

29.3.1 Hyperthyroidism, Hypothyroidism and goiter 29.3.2 Hypo parathyroidism and Hyper parathyroidis 29.3.3 Cushing's Syndrome 29.3.4 Addison's Disease
29.3.5 Hyperaldosteronism and Pheochromocytoma

References: 83,84,85,99,101,102,103,104,105,107,108,109,110,111,112,113,114,115,124,125,134,135,136,138,139,140,141,142,143,148,149,150

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Summarize classification of thyroid diseases, causes, signs and symptoms, nonspecific	2	Lecture	CAN	Knows-	L,L&PPT

	laboratory abnormality in hyperthyroidism, subclinical hypothyroidism				how	
CO1,CO3	Identify causes of (thyrotoxicosis) hyperthyroidism and their relative frequencies, clinical assessment, investigations of hyperthyroidism, subclinical hyperthyroidism, grave's diseases and goiter.	1	Experiential-Learning 29.9	PSY-ADT	Does	LS,ML,SDL
CO1,CO3	Present a case with hypothyroidism.	1	Practical Training 29.9	PSY-GUD	Shows-how	LRI,CD,CBL
CO1,CO3	Present a case with hyperthyroidism.	1	Practical Training 29.10	PSY-GUD	Shows-how	CD,LRI,CBL
CO1,CO3	Identify classification of diseases of the parathyroid glands, details on hypoparathyroidism, causes and clinical assessment of hypercalcemia, hypocalcemia differential diagnosis of hypocalcemia, clinical and radiological features of hyperparathyroidism.	1	Experiential-Learning 29.10	PSY-ADT	Does	C_L
CO1,CO3	Present a case with cushing's syndrome.	1	Practical Training 29.11	PSY-GUD	Shows-how	CBL,LRI,CD
CO1,CO3	Determine the causes of cushing's syndrome by sequence of investigations	1	Lecture	CAP	Knows-how	L,L&PPT
CO1,CO3	Identify causes, clinical and biochemical features and investigations of Addison's disease.	2	Experiential-Learning 29.11	PSY-GUD	Does	LRI,PER
CO1,CO3	Demonstrate causes, clinical features and investigations of hyperaldosteronism.	1	Practical Training 29.12	PSY-MEC	Shows-how	CBL,LRI,CD,BL
CO1,CO3	Enumerate the causes, clinical features and investigations of pheochromocytoma.	1	Lecture	CAN	Knows-how	L&PPT,L

M 29 Unit 4 Diabetes Mellitus and Obesity

29.4.1 Type 1 Diabetes 29.4.2 Type 2 Diabetes 29.4.3 Diabetic ketoacidosis 29.4.4 Hyperglycemic hyperosmolar state 29.4.5 Gestational Diabetes 29.4.6 Complications of Diabetes 29.4.7 Hypoglycaemia 29.4.8 Diabetic foot 29.4.9 Obesity

References: 83,84,85,99,101,102,103,104,105,107,108,109,110,111,112,113,114,115,118,124,125,133,134,135,136,137,138,139,140,141,142,143,148,149,150

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Demonstrate genetic predisposition, environmental predisposition, metabolic disturbance and pathology of type1 diabetes.	2	Experiential-Learning 29.12	PSY-GUD	Does	SY,W
CO1,CO3	Examine a patient with diabetes mellitus.	1	Practical Training 29.13	PSY-GUD	Shows-how	D-BED,LRI,CBL,CD
CO1,CO3	Enumerate the risk factors, pathology, presenting problems, diagnosis of diabetes mellitus.	1	Experiential-Learning 29.13	AFT-VAL	Does	ML,LS,JC
CO1,CO3	Identify the clinical features of diabetic ketoacidosis and analyze the pathogenesis and investigations.	1	Lecture	CAN	Knows-how	L,L&PPT
CO1,CO3	Identify the hyperglycemic hyperosmolar state in type II diabetes mellitus patients.	1	Practical Training 29.14	PSY-GUD	Shows-how	LRI,CD,CBL
CO1,CO3	Assess a patient coming with diabetic ketoacidosis.	1	Experiential-Learning 29.14	PSY-MEC	Does	CBL,CD,LRI
CO1,CO3	Identify microvascular and macrovascular complications, risk factors, clinical features, screening and diagnosis in diabetes mellitus and explain the preventive measures.	2	Experiential-Learning 29.	PSY-GUD	Does	TBL,BS,ML,LS

			15			
CO1,CO3	Distinguish the most common symptoms of the hypoglycemia patients coming with emergency and order investigations.	1	Practical Training 29.15	PSY-GUD	Shows-how	D-BED,C D,LRI,TB L,CBL
CO1,CO3	Enumerate the life style advice, weight loss, diet advice, low calorie diet advice and preventive measures in diabetes mellitus.	2	Experiential-Learning 29.16	AFT-REC	Does	FV

Practical Training Activity

Practical Training 29.1 : Clinical examination in a patient presenting with rheumatological symptoms.

Total duration of the activity (1 hour)

Case-Based Learning

The procedure will be explained by the faculty and instructions have to be given to the students (10 minutes)

The patient's medical history and relevant imaging studies (X-ray, CT scans) have to be reviewed by the students (20 minutes)

The students should be involved in bedside examination (30 minutes)

Practical Training 29.2 : Interpret diagnostic tests in RA.

Total duration :1 hour

Discussions, Lab Report Interpretation, Peer Learning

The procedure will be explained by the faculty and instructions have to be given to the students (10 minutes)

Documentation of 10 rheumatoid arthritis case sheets with radiological findings and other investigations such as RA factor, ANA, CRP, and CBC has to be completed by the students (25 minutes)

Interpretation of the diagnostic tests according to the diagnostic criteria should be done by the students (15 minutes)

Students have to submit a report to the concerned faculty (10 minutes)

Practical Training 29.3 : Clinical presentation in Rheumatoid Arthritis.

Total duration of the activity (2 hours)

Case Diagnosis, Case-Based Learning, Demonstration Bedside, Lab Report Interpretation, X-ray Identification

The procedure will be explained by the faculty and instructions have to be given to the students (15 minutes)

Students will be divided into two groups and asked to identify the clinical features of rheumatoid arthritis (45 minutes)
Documentation of the clinical features should be done by the students (40 minutes)
Students have to submit a report to the concerned faculty (20 minutes)

Practical Training 29.4 : Monitoring plans for patients with rheumatologic conditions.

Total duration of the activity (1 hour)

Field Visit

The procedure will be explained by the faculty and instructions have to be given to the students (10 minutes)
Students have to be educated about the importance of follow-up and monitoring in rheumatologic patients (25 minutes)
Students should conduct patient awareness sessions regarding proper follow-up and management of clinical symptoms (15 minutes)
Students have to submit a report to the concerned faculty (10 minutes)

Practical Training 29.5 : Case presentation in ankylosing spondylitis.

Total duration of the activity (2 hours)

Case Diagnosis, Case-Based Learning, Demonstration Bedside, Lab Report Interpretation, X-ray Identification

The procedure will be explained by the faculty and instructions have to be given to the students (10 minutes)
Students have to be divided into two groups (5 minutes)
Students have to review clinical history and relevant diagnostic criteria (15 minutes)
Students have to perform bedside demonstration and identify clinical features of ankylosing spondylitis (30 minutes)
Students have to interpret lab reports and X-ray findings (25 minutes)
Students have to discuss findings within their groups (15 minutes)
Students have to prepare documentation of clinical features and investigations (15 minutes)
Students have to submit the report to the concerned faculty (5 minutes)

Practical Training 29.6 : Case presentation in osteo arthritis.

Total duration of the activity (2 hours)

Case Diagnosis, Case-Based Learning, Demonstration Bedside, Lab Report Interpretation, X-ray Identification

The procedure will be explained by the faculty and instructions have to be given to the students (10 minutes)
Students have to be divided into two groups (5 minutes)
Students have to review the patient history and clinical features of osteoarthritis (20 minutes)
Students have to conduct a bedside examination to identify clinical signs (30 minutes)

Students have to interpret laboratory reports and X-ray findings (25 minutes)
 Students have to discuss their observations and correlate them with diagnostic criteria (15 minutes)
 Students have to document clinical features and investigation results (10 minutes)
 Students have to submit the report to the concerned faculty (5 minutes)

Practical Training 29.7 : Case presentation in gout.

Total duration of the activity (2 hours)
 Case Diagnosis, Case-Based Learning, Lab Report Interpretation
 The procedure will be explained by the faculty to the students and they are instructed to follow the same under their guidance (10 minutes)
 Students will be instructed to interpret diagnostic tests such as serum uric acid levels, joint fluid analysis, and radiographs (55 minutes)
 Students will be asked to document the clinical features of gout based on patient case presentation (45 minutes)
 Faculty will provide feedback and summarize key clinical and diagnostic findings of gout (5 minutes)
 Students will be instructed to prepare and submit a report summarizing the activity and findings to the concerned faculty (5 minutes)

Practical Training 29.8 : Case presentation in pseudogout.

Total duration of the activity (2 hours)
 Case Diagnosis, Case-Based Learning, Lab Report Interpretation
 The procedure will be explained by the faculty to the students and they are instructed to follow the same under their guidance (10 minutes)
 Students will be divided into two groups and instructed to observe the clinical features of pseudogout through case records or patient examination (25 minutes)
 Each group will analyze and document clinical signs and laboratory findings such as joint fluid analysis and radiographs (30 minutes)
 Groups will discuss and correlate clinical and lab data to arrive at a diagnosis (30 minutes)
 Faculty will provide feedback and summarize the key diagnostic features of pseudogout (15 minutes)
 Students will be instructed to prepare and submit a report summarizing the activity and findings to the concerned faculty (10 minutes)

Practical Training 29.9 : Case presentation on hypothyroidism.

Total duration of the activity (1 hour)
 Case Diagnosis, Case-Based Learning, Lab Report Interpretation
 The procedure will be explained by the faculty and instructions have to be given to the students (10 minutes)
 Students should be posted in the OPD and clinical features of hyperthyroidism have to be identified (30 minutes)
 Students should discuss their findings and clarify doubts under faculty guidance (10 minutes)
 Students have to prepare and submit a report to the concerned faculty (10 minutes)

Practical Training 29.10 : Case presentation on hyperthyroidism.

Total duration of the activity (1 hour)

Case Diagnosis, Case-Based Learning, Lab Report Interpretation

The procedure will be explained by the faculty and instructions have to be given to the students (10 minutes)

Students should be posted in the OPD and clinical features of hyperthyroidism have to be identified (30 minutes)

Students should discuss their findings and clarify doubts under faculty guidance (10 minutes)

Students have to prepare and submit a report to the concerned faculty (10 minutes)

Practical Training 29.11 : Case presentation on cushing's syndrome.

Total duration of the activity (1 hour)

Case Diagnosis, Case-Based Learning, Lab Report Interpretation

The procedure will be explained by the faculty and instructions have to be provided to the students (10 minutes)

Students should be shown video clippings demonstrating clinical features of Cushing's syndrome (20 minutes)

Students have to discuss the causes and investigations related to Cushing's syndrome based on the videos (15 minutes)

Students should prepare and submit a report summarizing their observations and learning to the concerned faculty (15 minutes)

Practical Training 29.12 : Hyperaldosteronism.

Total duration of the activity (1 hour)

Blended Learning, Case Diagnosis, Case-Based Learning, Lab Report Interpretation

The procedure will be explained by the faculty and instructions have to be provided to the students (10 minutes)

Students should be shown video clippings demonstrating clinical features of hyperaldosteronism (20 minutes)

Students have to discuss and identify the causes and relevant investigations based on the videos (15 minutes)

Students should prepare and submit a report summarizing their observations and learning to the concerned faculty (15 minutes)

Practical Training 29.13 : Clinical examination of the patient with diabetes mellitus.

Total duration of the activity (1 hour)

Case Diagnosis, Case-Based Learning, Demonstration Bedside, Lab Report Interpretation

The procedure will be explained by the faculty and instructions have to be provided to the students (10 minutes)

Students should be guided to perform general and systemic examinations relevant to diabetic symptoms (15 minutes)
 Documentation of clinical symptoms concerning the blood sugar levels has to be done by students under supervision (15 minutes)
 Lab report values including fasting and postprandial glucose and HbA1c should be interpreted and correlated with clinical findings (10 minutes)
 A case report covering findings and interpretation should be submitted to the concerned faculty (10 minutes)

Practical Training 29.14 : Hyperglycemic hyperosmolar state in type II diabetes mellitus patients.

Total duration of the activity (1 hour)
 Case Diagnosis, Case-Based Learning, Lab Report Interpretation
 The procedure will be explained by the faculty and instructions have to be given to the students (10 minutes)
 Students should be oriented to the clinical features suggestive of HHS in a suspected diabetic patient (10 minutes)
 Relevant biochemical tests including plasma glucose, serum osmolality, urea, and electrolytes have to be identified and ordered (10 minutes)
 Students should be guided to interpret the lab reports and correlate them with clinical features (15 minutes)
 A report summarizing the findings and diagnostic approach should be submitted to the concerned faculty (15 minutes)

Practical Training 29.15 : Hypoglycemia patients coming with emergency.

Total duration of the activity (1 hour)
 Case Diagnosis, Case-Based Learning, Demonstration Bedside, Lab Report Interpretation, Team-Based Learning
 The procedure will be explained by the faculty and instructions have to be given to the students (10 minutes)
 Students should identify clinical symptoms and signs of hypoglycemia in a simulated or real emergency case (15 minutes)
 Students have to order relevant biochemical and specialized investigations for diagnosis (10 minutes)
 Lab reports should be interpreted and a management plan has to be formulated under faculty guidance (15 minutes)
 Students must prepare and submit a brief report on the case and their clinical approach (10 minutes)

Experiential learning Activity

Experiential-Learning 29.1 : Functional anatomy and physiology of musculoskeletal system.

Total duration : 1hour
 Library Session, Mobile Learning, Self-directed learning
 The faculty should provide an introduction outlining the objectives and significance of understanding the functional anatomy and physiology of the musculoskeletal system. (10 minutes)
 Students should be assigned to engage in self-directed learning by utilizing library resources and mobile learning tools to gather relevant information. (30 minutes)

Students have to organize and prepare a comprehensive booklet summarizing the functional anatomy and physiology of the musculoskeletal system. (15 minutes)
At the end of the activity, students should submit the completed assignment report to the concerned faculty for evaluation. (5 minutes)

Experiential-Learning 29.2 : Applied anatomy at rheumatology.

Total duration:1 hour

Library Session, Team Project Work

The faculty should explain the objectives and guidelines for preparing a mini project on applied anatomy and pathophysiology findings in rheumatology. (10 minutes)

Students should be divided into teams and have to conduct a focused literature search using library resources and digital materials to collect relevant information and images. (25 minutes)

Each team should compile their findings and prepare a detailed mini project report integrating applied anatomy with pathophysiological aspects and illustrative images. (20 minutes)

At the end of the activity, students should submit the finalized mini project report to the concerned faculty for review and assessment. (5 minutes)

Experiential-Learning 29.3 : Pathophysiology of gout and pseudogout.

Total duration :2 hours

Lecture with Video clips

An introductory overview of gout and pseudogout pathophysiology should be provided by the faculty to set the context for the visual journey. (40 minutes)

A detailed video presentation illustrating the pathological processes underlying gout and pseudogout should be shown to the students, highlighting crystal deposition, inflammatory response, and tissue damage. (30 minutes)

Students should be encouraged to note down key points and clarify doubts with the faculty during or immediately after the video presentation. (25 minutes)

Students should be instructed to prepare and submit a comprehensive report summarizing the pathophysiology and key learning outcomes from the visual journey to the concerned faculty. (25 minutes)

Experiential-Learning 29.4 : Life style modifications in gestational diabetes.

Total duration :2 hours

Library Session, Mobile Learning, Team Project Work

The students will prepare the mini booklet on gestational diabetes which includes the preventive measures, diets, and actions to be added and avoided through team project work.

The faculty should begin the session by introducing the objective and importance of lifestyle modifications in gestational diabetes. Key areas such as preventive measures, diet, and lifestyle changes to be adopted or avoided should be highlighted (10 minutes)

Students should be divided into small teams, and each team should be assigned specific topics such as dietary modifications, physical activity guidelines, stress management,

and risk prevention strategies to be included in the booklet (10 minutes)

Each team should perform brainstorming to identify key messages, culturally appropriate advice, and simple language suitable for public awareness content (15 minutes)

Teams should utilize library resources and digital platforms to gather current guidelines and evidence-based information on gestational diabetes and related lifestyle changes (25 minutes)

Teams should begin designing the layout and content of the mini booklet using mobile learning tools or word processing applications, ensuring the inclusion of do's and don'ts, meal tips, and preventive actions (30 minutes)

Each team should review and refine their booklet content with a focus on clarity, practicality, and educational value for pregnant women and the general public (15 minutes)

At the end of the session, the final draft of the mini booklet should be submitted to the concerned faculty along with a team report summarizing the process and key points covered (15 minutes)

Experiential-Learning 29.5 : American rheumatism association criteria and investigations for systemic lupus erythematosus

Total duration of the activity (2 hours)

Symposium, Workshops

The faculty should introduce the workshop by explaining the significance of the American Rheumatism Association criteria in the diagnosis of systemic lupus erythematosus. (15 minutes)

Expert-led sessions should be conducted covering detailed discussions on the criteria, relevant investigations, and interpretation of laboratory findings related to systemic lupus erythematosus. (60 minutes)

Interactive case discussions should be facilitated where students should analyze clinical scenarios applying the criteria and investigations to reach a diagnosis. (30 minutes)

At the end of the activity, students should compile and submit a comprehensive report on the workshop content and their case analyses to the concerned faculty. (15 minutes)

Experiential-Learning 29.6 : Extra articular features and investigations of rheumatoid arthritis.

Total duration :2hours

Lab Report Interpretation, Library Session, Mobile Learning, Self-directed learning

The activity should be introduced by the faculty with a brief explanation about the importance of understanding extra articular features and investigations in rheumatoid arthritis. (15 minutes)

Students should be instructed to review modern medicine textbooks and various reference books focusing on the extra articular features of rheumatoid arthritis. (45 minutes)

A guided session should be done where students analyze and interpret relevant lab reports and investigations related to rheumatoid arthritis. (30 minutes)

The students should then be encouraged to use mobile learning resources and self-directed study methods to deepen their understanding of the subject. (20 minutes)

At the end of the activity, students should prepare and submit a detailed report summarizing their findings and learning outcomes to the concerned faculty. (10 minutes)

Experiential-Learning 29.7 : The impact of rheumatologic conditions on quality of life.

Total duration :2 hours

Field Visit, Team-Based Learning

An initial briefing should be given by the faculty to explain the objectives of the field visit and the importance of understanding quality of life in rheumatologic conditions. (15 minutes)

Students should be taken on a field visit to a rheumatology clinic or patient support group where they will observe and interact with RA patients to learn about their challenges in daily life, work, and family environments. (60 minutes)

Under faculty supervision, students should conduct counseling sessions or awareness activities aimed at improving patients' coping mechanisms and quality of life. (30 minutes)

After the field visit, students should collaboratively prepare a report highlighting the key insights gained and submit it to the concerned faculty. (15 minutes)

Experiential-Learning 29.8 : Radiological findings of RA, OA, gout and pseudogout.

Total duration :2 hours

Case Diagnosis, Case-Based Learning, Lab Report Interpretation, X-ray Identification

An introduction to the importance of radiological assessment in RA, OA, gout, and pseudogout should be provided by the faculty to the students. (15 minutes)

The procedure for interpreting X-ray images should be explained clearly by the faculty, including key radiological signs associated with each disease. (15 minutes)

Students should be divided into small groups and given sets of X-ray images representing cases of RA, OA, gout, and pseudogout to analyze and interpret. (40 minutes)

Each group should discuss their findings, focusing on identifying specific radiological features, differential diagnosis, and clinical correlation under faculty supervision. (30 minutes)

Students should be instructed to compile a detailed report summarizing the radiological findings, diagnostic impressions, and clinical significance for submission to the concerned faculty. (20 minutes)

Experiential-Learning 29.9 : Hyperthyroidism, subclinical hyperthyroidism, grave's diseases and goiter.

Total duration :1 hour

Library Session, Mobile Learning, Self-directed learning

The topic and expectations of the assignment should be introduced and explained by the faculty to the students. (10 minutes)

Students should be instructed to conduct a detailed literature search on hyperthyroidism, subclinical hyperthyroidism, Grave's disease, and goiter using library resources and mobile learning tools. (25 minutes)

Students should organize the gathered information and prepare a structured assignment focusing on causes, clinical assessment, investigations, and relative frequencies of these thyroid disorders. (20 minutes)

At the end of the activity, students should be instructed to compile and submit a comprehensive report of the assignment to the concerned faculty for evaluation. (5 minutes)

Experiential-Learning 29.10 : Hypoparathyroidism, hypercalcemia, hypocalcemia, addison's disease.

Total duration :1 hour

Co Learning

The session should be introduced by the faculty, highlighting the importance of understanding parathyroid gland diseases and related metabolic conditions. (10 minutes)

Students should be divided into small groups and assigned topics including hypoparathyroidism, hypercalcemia, hypocalcemia, and Addison's disease for detailed group study and discussion. (15 minutes)

The clinical features, causes, differential diagnosis, and radiological aspects of these conditions should be explored and discussed collaboratively within the groups. (20 minutes)

Each group should prepare a concise summary of their discussion points and key learning outcomes to consolidate their understanding. (10 minutes)

Students should submit a comprehensive report on the group study covering the classification, clinical assessment, and differential diagnosis of the conditions studied to the concerned faculty. (5 minutes)

Experiential-Learning 29.11 : Causes, clinical and biochemical features and investigations of Addison's disease.

Total duration :2 hours

Lab Report Interpretation, Presentations

Poster creation works on causes, clinical and biochemical features and investigations of Addison's disease.

Students should be divided into small groups and instructed to research the causes of Addison's disease, using textbooks, journals, and online resources to gather accurate and up-to-date information. (25 minutes)

Each group should then focus on identifying and discussing the clinical features of Addison's disease, including typical symptoms and signs, to be represented in their posters. (20 minutes)

The groups should study the biochemical features and relevant laboratory findings, such as electrolyte imbalances, cortisol levels, and ACTH stimulation test results, and decide how to effectively illustrate these in their work. (20 minutes)

The necessary investigations for diagnosis should be reviewed and summarized by each group, highlighting their clinical relevance and interpretation for inclusion in the poster. (20 minutes)

After gathering all the information, the groups should collaborate to design and create their posters, ensuring that all key points are presented clearly and accurately. Faculty should provide guidance and feedback during this process. (20 minutes)

At the end of the activity, each group should present their poster to the class for peer review and discussion, allowing clarification and reinforcement of the learning points. (15 minutes)

Finally, students should be required to submit their completed posters to the concerned faculty for evaluation and feedback. (10 minutes)

Experiential-Learning 29.12 : Type 1 diabetes- genetic predisposition, environmental predisposition, metabolic disturbance and pathology.

Total duration :2 hours

Symposium, Workshops

Symposium on genetic, environmental and pathology of type I diabetes mellitus.

The session should be divided into presentations where different groups or speakers explain the genetic predisposition involved in type 1 diabetes, including key genes and family history, with emphasis on current research findings. (25 minutes)

Next, environmental predispositions such as viral infections, dietary factors, and other triggers should be discussed, highlighting their role in the onset of type 1 diabetes. (20 minutes)

The metabolic disturbances leading to the disease, including insulin deficiency, glucose metabolism alterations, and autoimmune destruction of beta cells, should be detailed with clinical correlations. (20 minutes)

The pathology section should cover the histopathological features of type 1 diabetes, focusing on pancreatic islet changes and immune cell infiltration, explained through images, slides, or videos. (20 minutes)

A workshop segment should follow where scholars discuss case scenarios or recent studies to integrate knowledge on genetic, environmental, metabolic, and pathological aspects collaboratively. Faculty should facilitate and guide this interactive session. (20 minutes)

The symposium should conclude with a summary session led by the faculty to consolidate key learning points, clarify doubts, and emphasize clinical relevance. (15 minutes)

At the end, scholars should be instructed to submit a report summarizing the genetic predisposition, environmental factors, metabolic disturbances, and pathology of type 1 diabetes mellitus to the concerned faculty for evaluation. (10 minutes)

Experiential-Learning 29.13 : Risk factors, pathology, presenting problems, diagnosis of diabetes mellitus.

Total duration of the activity (1 hour)

Journal Club, Library Session, Mobile Learning

A recent journal article related to the epidemiology and diagnosis of diabetes mellitus will have to be presented by a PG scholar during a journal club session under faculty supervision. The article should be critically appraised with focus on risk factors and diagnostic criteria. (10 minutes)

PG scholars will have to identify and list various modifiable and non-modifiable risk factors of diabetes mellitus using the latest literature and discuss their relevance in clinical practice. This activity should be done through collaborative discussion. (10 minutes)

The pathology of diabetes mellitus, including the role of insulin resistance, beta-cell dysfunction, and inflammatory pathways, should be reviewed through guided mobile learning resources. Each learner will have to summarize key concepts from digital modules or apps. (10 minutes)

Common presenting symptoms and signs of diabetes mellitus will have to be reviewed using standard textbooks and clinical case studies accessed during a structured library session. Learners should correlate clinical features with underlying pathology. (10 minutes)

Diagnosis of diabetes mellitus, including criteria based on fasting blood sugar, oral glucose tolerance test, and HbA1c, should be explained. Learners will have to apply these criteria to sample case scenarios for practical understanding. (10 minutes)

PG scholars will have to reflect and discuss in small groups how early identification of risk factors and symptoms can lead to timely diagnosis and prevention of complications. Each group should summarize their key learning points. (5 minutes)

A faculty-led wrap-up session should be done to consolidate the information shared, clarify doubts, and connect journal insights with clinical decision-making. Feedback should be collected from learners. (5 minutes)

Experiential-Learning 29.14 : Diabetic ketoacidosis.

Total duration :1 hour

Case Diagnosis, Case-Based Learning, Lab Report Interpretation

The students will gain the ability to provide emergency care through periodical casualty postings

The faculty should begin the session with a quick briefing on the protocol to be followed during the casualty posting. The objectives related to emergency care and the key assessment points in DKA should be outlined. (5 minutes)

Students should be posted in the emergency department or casualty area where they will observe or participate in the assessment of a diabetic patient presenting with acute symptoms suggestive of DKA. (10 minutes)

Vital signs including blood pressure, respiratory rate, temperature, and level of consciousness should be assessed by students under supervision. Signs like Kussmaul's breathing, dehydration, and altered sensorium should be identified. (10 minutes)

Students should be guided to obtain relevant patient history including insulin use, recent infections, dietary changes, or missed doses, to understand triggering factors for DKA. (10 minutes)

Lab reports such as blood glucose, arterial blood gas (ABG), serum ketones, electrolytes, and urine ketones should be reviewed. Students should interpret the values with guidance from the faculty. (10 minutes)

The students should be encouraged to discuss the diagnosis and suggest emergency management steps including fluid resuscitation, insulin therapy, and electrolyte correction. Differential diagnoses should also be considered. (10 minutes)

A debriefing session should be conducted where students reflect on what they observed, clarify doubts, and reinforce their understanding. A summary report has to be submitted to the faculty. (5 minutes)

Experiential-Learning 29.15 : Microvascular and macrovascular complications in diabetes mellitus.

Total duration :2 hours

Brainstorming, Library Session, Mobile Learning, Team-Based Learning

The students will prepare an E-Module on micro, and macrovascular complications in diabetes mellitus as a team-based learning.

The faculty should begin the session by briefing the PG scholars on the objective and structure of the e-module to be prepared. The key components such as complications,

risk factors, clinical features, screening, diagnosis, and preventive measures should be outlined (10 minutes)

Students should be divided into small teams, and each team should be assigned a specific topic such as microvascular complications (retinopathy, nephropathy, neuropathy) or macrovascular complications (coronary artery disease, stroke, peripheral vascular disease) (10 minutes)

Each team should perform brainstorming to identify the key content areas, flow of presentation, visuals, and references needed for their part of the module (20 minutes)

Students should utilize a guided library session or digital resources to collect updated and evidence-based information related to the assigned complications and their management (20 minutes)

Teams should use mobile learning tools or software platforms to begin drafting their e-module content with the inclusion of diagrams, videos, or clinical examples for better understanding (30 minutes)

Each team should review their module content and prepare a summary of key findings, ensuring the inclusion of risk factors, screening methods, diagnosis criteria, and preventive strategies (15 minutes)

At the end of the session, the e-module draft should be submitted to the concerned faculty along with a written summary report prepared by each group for evaluation (15 minutes)

Experiential-Learning 29.16 : Life style advice In diabetes mellitus.

Total duration : 2 hours

Field visit

The students will organise the public awareness program to educate on lifestyle modification in diabetes mellitus, weight loss activities, low-calorie diet advice and preventive measures.

The session should start with a short orientation by the faculty, explaining the objectives of the public awareness program and the importance of lifestyle modification in diabetes mellitus (10 minutes)

Students should be divided into groups and assigned specific topics such as weight loss strategies, low-calorie diet plans, physical activity recommendations, and preventive measures for diabetes mellitus (10 minutes)

Each group should prepare and organize educational materials like charts, leaflets, posters, and models related to their assigned topic for public demonstration (20 minutes)

The groups should then conduct interactive sessions with the public at the selected field location, educating them on lifestyle changes including a balanced diet, regular exercise, stress management, and weight monitoring (30 minutes)

Dietary advice focusing on low-calorie intake and healthy food substitutions should be demonstrated by students using sample meal charts or visuals to enhance understanding among the public (20 minutes)

Preventive strategies such as routine blood sugar testing, early symptom recognition, and avoiding risk factors like sedentary behaviour should be discussed with the audience (20 minutes)

Students should encourage community participation by answering questions, clarifying doubts, and involving them in simple demonstrations or quizzes related to diabetes prevention (15 minutes)

The session should be concluded by the faculty with a debrief to the students on the effectiveness of their communication, key observations made during the field activity,

and feedback for improvement (15 minutes)

Modular Assessment

Assessment method	Hour
Conduct a structured modular assessment. Assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per the table 6C Long answer questions of 1 question (10 Marks) Short answer questions of 2 questions (10 Marks) Spotters on “ Interpret the X-ray findings on RA, OA, Gout” (10 Marks) Portfolio Assessment (10 Marks) On “Documentation of 10 rheumatoid findings and other investigations such as RA factors, ANA, CRP, and CBC and interpret the diagnostic test with diagnostic criteria. • Allow students to compile their port flow over time, ensure regular updates • Use digital platforms for easy submission and review • Provide periodic check-ins or deadlines to ensure progress Evaluation criteria and rubrics Evaluation steps (10 Marks) • Students submit their portflow by the specified deadline • Faculty or review panel assess the portfolio using the rubric • Focus on evidence that demonstrates the correlation between the investigations and diagnostic criteria or Any practical in converted form can be taken for assessment (25 marks) and Any of the experiential as portfolio/reflections /presentations can be taken as an assessment (25 marks)	4

Module 30 : Infectious Diseases, Nephrology and Reproductive system

Module Learning Objectives

(At the end of the module, the students should be able to)

Describe the systemic viral infections, bacterial infections, fungal infections, protozoa infections and helminths infections and their causative organisms, clinical features, diagnostic tests

Conduct clinical examinations of patients with infectious diseases, History taking in suspected infectious diseases and analysis of the skin lesions in infectious diseases, common infectious syndromes, and microbiological investigations.

Identify acute renal failure, chronic kidney disease, glomerular diseases, renal tubular diseases, nephrolithiasis and urinary tract infection by history taking, clinical examination of the kidney and urinary tract, investigations of renal and urinary tract disease and presenting problems in renal and urinary tract disease

M 30 Unit 1 Essentials of Infections

30.1.1 General consideration of bacterial, viral, fungal, protozoa, helminthes infections

30.1.2 Diagnostic features of infectious disease

30.1.3 Differential diagnosis of infectious disease

30.1.4 Infections during pregnancy

30.1.5 Infection prevention and control

References: 83,84,85,99,101,102,103,104,105,107,108,109,110,111,112,113,114,115,124,125,135,136,138,139,140,141,142,143

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Describe the incubation periods of important infections, terminology in outbreaks of infections.	1	Experiential-Learning 30.1	AFT-VAL	Does	L_VC
CO1,CO3	Describe the essential of diagnosis, complications, diagnostic features of infectious	1	Experiential-	AFT-	Does	DIS,CD,L

	disease.		Learning 30.2	VAL		RI
CO1,CO3	Explain the infections during pregnancy.	1	Experiential-Learning 30.3	AFT-VAL	Does	FV
CO1,CO3	Interpret the laboratory findings of infectious diseases.	1	Experiential-Learning 30.4	PSY-MEC	Does	LRI
CO1,CO3	Clinical presentation in infectious diseases.	1	Practical Training 30.1	PSY-MEC	Shows-how	LRI,D,CB L,CD
CO1,CO3	Distinguish the causative organism in infectious diseases.	1	Experiential-Learning 30.5	PSY-GUD	Does	LS,ML,SDL
CO1,CO3	Observe the awareness on vaccination, immunization in infectious diseases.	1	Practical Training 30.2	PSY-ADT	Shows-how	ML,TPW,LS,FV
CO1,CO3	Demonstrate the measures used in infection prevention and control.	1	Experiential-Learning 30.6	AFT-VAL	Does	W,SY

M 30 Unit 2 Infectious Disease

30.2.1 Bacterial infections – Brucellosis, Leptospirosis, Enteric fever, Syphilis, Bacillary dysentery, Cholera, Diphtheria, Leprosy 30.2.2 Viral infections – Measles, Mumps, Rubella, Chickenpox, Herpes zoster, Mumps, influenza, Epstein Barr virus, cytomegalovirus, dengue, 30.2.3 Yellow fever, Small pox, Japanese B encephalitis 30.2.4 Fungal infections – Candidiasis, Tinea corporis, Tinea cruris, Tinea pedis 30.2.5 Protozoa infections – Malaria, Kala azar, Amoebiasis 30.2.6 Helminthes infections - Intestinal worms, Filariasis

References: 83,84,85,99,101,102,103,104,105,107,108,109,110,111,112,113,114,115,124,125,135,136,138,139,140,141,142,143

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Describe an overview, clinical features and investigations of bacterial infection diseases.	2	Lecture	CAN	Knows-how	L&PPT
CO1,CO3	Describe an overview, clinical features and investigations of viral infection diseases.	2	Lecture	CAN	Knows-how	L&PPT
CO1,CO3	Describe an overview, clinical features and investigations of fungal infections.	1	Lecture	CAN	Knows-how	L&PPT
CO1,CO3	Describe an overview, clinical features and investigations of protozoal infectious diseases.	2	Experiential-Learning 30.7	AFT-VAL	Does	SDL,PER
CO1,CO3	Describe an overview, clinical features and investigations of helminthes infectious diseases.	2	Experiential-Learning 30.8	AFT-VAL	Does	L_VC
CO1,CO3	Present a case with enteric fever.	2	Practical Training 30.3	PSY-GUD	Shows-how	LRI,CBL, D-BED,CD
CO1,CO3	Examine a patient with dengue.	2	Practical Training 30.4	PSY-GUD	Shows-how	L_VC
CO1,CO3	Present the cases with fungal infectious diseases.	2	Practical Training 30.5	PSY-GUD	Shows-how	CBL
CO1,CO3	Present a case with malaria.	1	Practical Training 30.6	PSY-GUD	Shows-how	ML,CBL, DL,C_L, CD
CO1,CO3	Present a case with filariasis.	1	Practical Training 30.7	PSY-GUD	Shows-how	CBL,ML, D,LS,D-

						BED
CO1,CO3	Demonstrate the measures used in infection prevention and control.	2	Experiential-Learning 30.9	AFT-VAL	Does	W,SY
CO1,CO3	Summarize the awareness on vaccination, immunization in infectious diseases	2	Experiential-Learning 30.10	AFT-VAL	Does	FV

M 30 Unit 3 Essentials of Nephrology

30.3.1 Functional anatomy and physiology of kidney and urinary tract 30.3.2 Clinical Examination of the kidney and urinary tract 30.3.3 Investigation of renal and urinary tract disease 30.3.4 Renal complications of radiological investigations 30.3.5 Presenting problems in renal and urinary tract diseases

References: 83,84,85,99,101,102,103,104,105,107,108,109,110,111,112,113,114,115,124,125,135,136,138,139,140,141,142,143

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Prepare a project work on the functional anatomy and physiology of kidney and urinary tract.	2	Experiential-Learning 30.11	PSY-ORG	Does	PrBL
CO1,CO3	Examine the patients with kidney and urinary tract diseases.	2	Practical Training 30.8	PSY-GUD	Shows-how	CBL,CD
CO1,CO3	Describe presenting problems in renal and urinary tract diseases.	1	Lecture	CAN	Knows-how	L&PPT
CO1,CO3	Interpret the relevant investigations of kidney and urinary tract diseases for essential diagnosis.	2	Practical Training 30.9	PSY-GUD	Shows-how	CBL,LRI,CD
CO1,CO3	Interpret the investigation results of kidney and urinary tract diseases with clinical correlation.	2	Experiential-Learning 30.12	CE	Does	CBL,LRI,CD

M 30 Unit 4 Renal Disorders and Reproductive Diseases

30.4.1 Acute renal failure 30.4.2 Chronic kidney disease 30.4.3 Glomerular diseases, Renal tubular diseases 30.4.4 Male and female infertility 30.4.5 Nephrolithiasis
30.4.6 Urinary tract infections

References: 83,84,85,99,101,102,103,104,105,107,108,109,110,111,112,113,114,115,124,125,135,136,138,139,140,141,142,143

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Describe general considerations, essentials of diagnosis, clinical findings, laboratory findings, classifications and differential diagnosis of acute renal failure.	2	Lecture	CC	Knows-how	L&PPT
CO1,CO3	Describe common causes of end stage renal failure, physical signs in advanced chronic kidney disease, stages of chronic kidney disease, stages of chronic kidney disease, suggested investigations in chronic kidney disease, criteria for referral of chronic kidney disease patients to a nephrologist.	2	Lecture	CAN	Knows-how	L&PPT
CO3	Describe the causes of male and female infertility, necessary investigations, and lifestyle modifications to manage the health condition.	2	Practical Training 30.10	PSY-GUD	Shows-how	FV
CO1,CO3	Describe the causes, clinical features and investigations of renal tubular diseases (acute and chronic tubulo interstitial nephritis) and glomerulonephritis.	1	Practical Training 30.11	PSY-GUD	Shows-how	LS,ML,SDL
CO1,CO3	Describe the pathophysiology, predisposing factors, clinical features and investigations for renal stones, composition of renal stones.	1	Practical Training 30.12	PSY-GUD	Shows-how	CD,CBL,SDL,JC
CO1,CO3	Examine a patient with chronic kidney disease.	2	Practical Training 30.13	PSY-GUD	Shows-how	CBL,CD,D-BED,LRI
CO1,CO3	Present a case with acute renal failure.	2	Experiential-	PSY-	Does	LRI,D-B

			Learning 30.13	GUD		ED,CD,CBL
CO1,CO3	Demonstrate measures to prevent calcium stone formation.	2	Experiential-Learning 30.14	AFT-VAL	Does	PrBL,LRI
CO1,CO3	Identify the indications for intervention to remove stones from urinary tract.	2	Experiential-Learning 30.15	PSY-ADT	Does	CD,LRI,CBL,DIS
CO1,CO3	Analyze the risk factors, clinical features and investigations of patients with urinary tract infections.	2	Experiential-Learning 30.16	PSY-MEC	Does	PER,CD,LRI,JC

Practical Training Activity

Practical Training 30.1 : Clinical presentation in infectious diseases.

Total duration of the activity is (1 hour)

Case Diagnosis, Case-Based Learning, Demonstration, Lab Report Interpretation

The procedure will be explained by the faculty to the students and they should be instructed to follow the same under their guidance (10 minutes)

Demonstration of the proper use of personal protective equipment (PPE) should be done by students under supervision (10 minutes)

Students have to be involved in simulated case sheet writing based on a given infectious disease scenario (15 minutes)

Students should be asked to document relevant findings and observations including signs, symptoms, and provisional diagnosis (15 minutes)

At the end of the activity, a report summarizing the experience and key learnings should be submitted to the concerned faculty (10 minutes)

Practical Training 30.2 : Vaccination, immunization in infectious disease.

Total duration of the activity is (1 hour)

Field Visit, Library Session, Mobile Learning, Team Project Work

The procedure will be explained by the faculty to the students and they should be instructed to follow the same under their guidance (10 minutes)

Awareness about the importance of vaccination and immunization in infectious disease prevention has to be discussed through short video clips (15 minutes)

Students have to conduct a field-oriented group discussion or virtual exploration related to national immunization programs and coverage (15 minutes)

Students should be asked to identify and explain the differences between various vaccine types and their schedules through team-based learning (10 minutes)

A report on the observed content, key takeaways, and relevance of vaccination in public health should be submitted by the students to the concerned faculty (10 minutes)

Practical Training 30.3 : Case presentation in enteric fever.

Total duration of the activity is (2 hours)

Case Diagnosis, Case-Based Learning, Demonstration Bedside, Lab Report Interpretation

The procedure will be explained by the faculty to the students and they will be instructed to follow the same under their guidance (15 minutes)

Students should be instructed to review a case of enteric fever and identify the clinical features based on patient history and findings (30 minutes)

Students have to assess and interpret relevant laboratory reports for confirmation and staging of the disease (25 minutes)

The possible complications of enteric fever should be discussed by students in small groups based on available clinical data (20 minutes)

Faculty will summarize the session, reinforce key learning points, and clarify student doubts through bedside demonstration (20 minutes)

A report summarizing the clinical features, investigations, and complications of enteric fever should be submitted by the students to the concerned faculty (10 minutes)

Practical Training 30.4 : Clinical examination in dengue.

Total duration of the activity is (2 hours)

Lecture with Video clips

The procedure will be explained by the faculty to the students and they will be instructed to follow the same under their guidance (15 minutes)

Students have to be divided into two groups and assigned specific themes related to dengue (epidemiology, aetiology, WHO clinical definition, and diagnostic criteria) (15 minutes)

Each group should collect materials and collaboratively create short video clips related to their assigned topic using available references and tools (40 minutes)

The created videos will be presented by each group to the class, and peer learning through observation and discussion will be facilitated (30 minutes)

Faculty will provide clarifications, corrections, and a brief lecture summarizing the key clinical examination aspects of dengue (15 minutes)

Students should be instructed to prepare and submit a concise report summarizing their activity and learning outcomes to the concerned faculty (5 minutes)

Practical Training 30.5 : Fungal infectious diseases.

Total duration of the activity is (2 hours)

Case-Based Learning

The procedure will be explained by the faculty to the students and they will be instructed to follow the same under their guidance (15 minutes)

Students will have to be divided into two groups and assigned to observe and identify clinical features of fungal infectious diseases in OPD cases (30 minutes)

Each group should discuss their findings internally and document key features related to diagnosis, including history, signs, and symptomatology (30 minutes)

Faculty will guide a case-based learning discussion to analyze and compare different types of fungal infections presented (25 minutes)

Key differentiating points and diagnostic clues will be summarized by the faculty and clarified through interaction (10 minutes)

Students will be instructed to prepare and submit a report summarizing their clinical observations and case-based analysis to the concerned faculty (10 minutes)

Practical Training 30.6 : Case presentation in malaria.

Total duration of the activity is (1 hour)

Case Diagnosis, Case-Based Learning, Co Learning, Demonstration Lab, Discussions, Mobile Learning

The procedure will be explained by the faculty to the students and they will be instructed to follow the same under their guidance (10 minutes)

Students will have to be divided into small groups and assigned malaria case materials for study and discussion (5 minutes)

Students should identify and record the clinical features of malaria based on the provided case scenarios (15 minutes)

Recent advances in the diagnosis and treatment of malaria will be discussed under the guidance of faculty through co-learning and mobile-based resources (10 minutes)

Faculty will demonstrate key lab findings or tests related to malaria and clarify any queries through interactive discussion (10 minutes)

Students will be instructed to prepare and submit a concise report summarizing the clinical features, diagnostic points, and recent advances to the concerned faculty (10 minutes)

Practical Training 30.7 : Case presentation in filariasis.

Total duration of the activity is (1 hour)

Case Diagnosis, Case-Based Learning, Demonstration, Demonstration Bedside, Library Session, Mobile Learning, Self-directed learning

The procedure will be explained by the faculty to the students and they will be instructed to follow the same under their guidance (10 minutes)

Students will have to be divided into two groups and assigned a patient case or clinical material related to filariasis (5 minutes)

Each group should identify and document the clinical features of filariasis through direct observation or guided materials such as images or video demonstrations (15 minutes)

Students should analyze the diagnostic approach and discuss the pathophysiology and stages of the disease among themselves (10 minutes)

A brief demonstration or summary of key physical signs and diagnosis will be provided by the faculty (10 minutes)

Students will be instructed to prepare and submit a report on the observed case and their clinical analysis to the concerned faculty (10 minutes)

Practical Training 30.8 : Kidney and urinary tract diseases.

Total duration of the activity is (2 hours)

Case Diagnosis, Case-Based Learning

The procedure will be explained by the faculty to the students and they will be instructed to follow the same under their guidance (15 minutes)

Students will have to be divided into two groups and assigned specific clinical cases related to kidney and urinary tract diseases (10 minutes)

Each group will have to perform a systematic clinical examination under supervision with a focus on inspection, palpation, percussion, and auscultation in urogenital disorders (30 minutes)

Findings from the examination should be discussed within each group and differential diagnoses should be formulated (25 minutes)
 Sample case-based discussions will be facilitated by faculty and diagnostic approaches will be highlighted (20 minutes)
 Faculty will summarize the session by discussing key clinical signs in kidney and urinary tract disorders and clear any doubts (10 minutes)
 Students should be instructed to prepare and submit a report on their examination findings and reflections to the concerned faculty (10 minutes)

Practical Training 30.9 : Investigations of kidney and urinary tract diseases for essential diagnosis.

Total duration of the activity is (2 hours)
 Case Diagnosis, Case-Based Learning, Lab Report Interpretation
 The procedure will be explained by the faculty to the students and they will be instructed to follow the same under their guidance (15 minutes)
 Students will have to be divided into two groups and each group should be assigned a simulated or real case of renal disease (10 minutes)
 Students will have to take a detailed history relevant to the kidney and urinary tract conditions (25 minutes)
 Each group will have to discuss and decide on the appropriate investigations needed for diagnosis (25 minutes)
 Students will have to interpret sample investigation reports (urine analysis, renal function tests, imaging reports) for diagnostic correlation (25 minutes)
 Faculty will provide feedback, clarify doubts, and summarize the essential investigations for various renal conditions (10 minutes)
 Students should be instructed to prepare and submit a report summarizing the clinical findings and investigations to the concerned faculty (10 minutes)

Practical Training 30.10 : Composition of renal stones.

Total duration of the activity is (1 hour)
 Case Diagnosis, Case-Based Learning, Journal Club, Self-directed learning
 The procedure will be explained by the faculty to the students and they are instructed to follow the same under their guidance (15 minutes)
 Students will be divided into two groups and they have to be involved in clinical research on urolithiasis through observational study or clinical trial (30 minutes)
 Faculty will facilitate discussion and clarify concepts related to pathophysiology, predisposing factors, and composition of renal stones (10 minutes)
 Students should be instructed to prepare and submit a report summarizing their research findings to the concerned faculty (5 minutes)

Practical Training 30.11 : Clinical Examination of Chronic kidney disease.

Total duration of the activity is (2 hours)
 Case Diagnosis, Case-Based Learning, Demonstration Bedside, Lab Report Interpretation
 The procedure will be explained by the faculty to the students and they are instructed to follow the same under their guidance (50 minutes)
 Students have to assess the clinical features of chronic kidney disease and arrive at a diagnosis (60 minutes)
 Faculty will provide feedback and clarify any doubts regarding clinical examination and diagnosis (5 minutes)
 Students should be instructed to prepare and submit a report summarizing the activity to the concerned faculty (5 minutes)

Practical Training 30.12 : Causes of male and female infertility, necessary investigations, and lifestyle modifications to manage the health condition.

Total duration of the activity is (2 hours)

Field Visit

The procedure will be explained by the faculty to the students and they are instructed to follow the same under their guidance (10 minutes)

Students have to interact with infertility patients and provide counselling about lifestyle modifications to manage their health conditions (60 minutes)

Students should distribute IEC (Information, Education, and Communication) materials to reinforce awareness (20 minutes)

Faculty will supervise and offer guidance during the awareness and counselling session (20 minutes)

Students should be instructed to prepare and submit a report summarizing their activity and observations to the concerned faculty (10 minutes)

Practical Training 30.13 : Acute chronic tubulo interstitial nephritis, glomerulonephritis..

Total duration of the activity (1 hour)

Library Session, Mobile Learning, Self-directed learning

The procedure will be explained by the faculty to the students and they are instructed to follow the same under their guidance (15 minutes)

Students will be divided into two groups and they have to perform an assignment on acute and chronic tubulo interstitial nephritis and glomerulonephritis using library and mobile learning resources (30 minutes)

Faculty will review the progress and clarify any doubts during the session (10 minutes)

Students should be instructed to prepare and submit a report summarizing their assignment findings to the concerned faculty (5 minutes)

Experiential learning Activity

Experiential-Learning 30.1 : Incubation periods of important infections.

Total duration :1 hour.

Lecture with Video clips

The faculty should begin the session by providing an introduction to the concept of incubation periods and common terminology used in infection outbreaks such as epidemic, pandemic, endemic, and outbreak. (10 minutes)

Students should be shown a series of video clips illustrating the incubation periods and transmission dynamics of important infectious diseases, especially those involved in epidemic and pandemic situations. Visual representations will have to clarify timelines and patterns of spread. (30 minutes)

Following the videos, students should participate in a brief discussion facilitated by the faculty to reinforce understanding of incubation periods and outbreak terminology, and to relate these concepts to recent real-world examples. (10 minutes)

Students should then be given time to summarize the key points from the visual journey and discussion. These summaries will have to be incorporated into their reports. (5 minutes)

At the end of the activity, students should submit a report to the concerned faculty. The report should include an overview of incubation periods, outbreak terminology, and reflections on the visual learning experience. (5 minutes)

Experiential-Learning 30.2 : Diagnostic features of infectious disease.

Total duration :1 hour.

Case Diagnosis, Discussions, Lab Report Interpretation

The faculty should initiate the session by outlining the objectives of the collaborative discussion, emphasizing the importance of understanding the essentials of diagnosis, complications, and diagnostic features of infectious diseases. (10 minutes)

Students should be divided into small groups and assigned specific infectious diseases to discuss. They will have to analyze the clinical presentation, diagnostic criteria, common complications, and relevant laboratory findings for their assigned diseases. (25 minutes)

Each group should engage in an interactive discussion with peers and faculty, sharing their findings and critically evaluating diagnostic approaches and potential complications. Clarifications and insights will have to be provided by the faculty during this exchange. (15 minutes)

Students should collectively prepare a summary of the key points discussed, highlighting diagnostic essentials and complications relevant to infectious diseases. This summary will have to be used for report preparation. (5 minutes)

At the end of the activity, students should submit a comprehensive report to the concerned faculty. The report should include group findings, discussion highlights, and personal reflections on the diagnostic challenges and features of infectious diseases. (5 minutes)

Experiential-Learning 30.3 : Infections during pregnancy.

Total duration : 1 hour.

Field Visit

The faculty should begin the activity by providing a brief overview of common infections during pregnancy, their maternal and fetal implications, and the importance of timely vaccination and immunization. (10 minutes)

Students should be prepared with educational materials such as pamphlets and charts that explain infections like rubella, toxoplasmosis, cytomegalovirus, and their prevention through vaccination and antenatal care. These materials will have to be clear, accurate, and accessible to the public. (10 minutes)

During the field visit, students should engage with pregnant women and their families in the community or antenatal clinics. They will have to educate them about the risks of infections in pregnancy, preventive measures, and adherence to vaccination schedules. (30 minutes)

Students should record the interactions, noting common questions, concerns, and the level of awareness among the population. This data will have to be used later for reflection and report writing. (5 minutes)

At the end of the activity, students should compile a detailed report summarizing their educational approach, community responses, and key learnings. The report should be submitted to the concerned faculty. (5 minutes)

Experiential-Learning 30.4 : Laboratory findings of infectious diseases.

Total duration : 1 hour.

Lab Report Interpretation

The faculty should start the session by providing an overview of the importance of laboratory diagnostics in infectious diseases, emphasizing the role of specialized diagnostic procedures in improving disease detection and management. (10 minutes)

Students should be introduced to newer specialized diagnostic tests such as PCR, ELISA, rapid antigen detection, and molecular assays. The principles, applications, and interpretation of results for these tests should be explained clearly. (15 minutes)

Students will have to review and interpret sample lab reports that include findings from these specialized diagnostic procedures. They should analyze the results in relation to clinical presentations and identify key diagnostic markers. (25 minutes)

Students should be given time to discuss their interpretations in small groups or with faculty facilitation, addressing any ambiguities and reinforcing correct understanding of the test outcomes. (5 minutes)

At the end of the activity, students should prepare and submit a report summarizing their interpretations and insights gained from exposure to specialized diagnostic procedures. The report should be submitted to the concerned faculty for evaluation. (5 minutes)

Experiential-Learning 30.5 : Causative organism in infectious diseases.

Total duration : 1 hour.

Library Session, Mobile Learning, Self-directed learning

The faculty should begin the session by introducing the importance of correctly identifying causative organisms in infectious diseases, highlighting the impact on diagnosis, treatment, and prognosis. Key categories such as bacteria, viruses, fungi, and parasites should be briefly outlined. (10 minutes)

Students should be assigned to conduct a library session where they will have to use textbooks, journals, and digital resources to study various causative organisms responsible for common infectious diseases. Emphasis should be placed on microbial characteristics, modes of transmission, and pathogenic mechanisms. (25 minutes)

During the session, students should be encouraged to use mobile learning tools for accessing updated databases and reference materials. They will have to critically analyze and compare organisms based on morphology, clinical relevance, and epidemiology. (10 minutes)

Students should compile their findings into a concise report summarizing different causative organisms, with examples of diseases they cause and relevant diagnostic features. This report should be prepared collaboratively or individually as instructed. (10 minutes)

At the end of the activity, the completed reports should be submitted to the concerned faculty for assessment. Feedback will have to focus on the accuracy of content, depth of understanding, and clarity of presentation. (5 minutes)

Experiential-Learning 30.6 : Infection prevention and control.

Total duration :1 hour.

Presentations, Self-directed learning

The faculty should begin the session by briefly introducing the topic of infection prevention and control, emphasizing its importance in clinical settings and outlining the

objectives of the invited talk. (10 minutes)

An invited talk should be delivered by healthcare professionals from a NABH-certified hospital. They will have to explain standard infection control measures including hand hygiene, use of personal protective equipment, sterilization protocols, and biomedical waste management. (30 minutes)

Following the talk, students should be encouraged to participate in a question-and-answer session. They will have to clarify doubts related to practical challenges in infection control and best practices in different healthcare environments. (10 minutes)

Students should prepare a brief summary of the session, highlighting key infection control measures and their relevance to patient safety. This summary will have to be included in their final report. (5 minutes)

At the end of the activity, students should submit their reports to the concerned faculty. The reports should reflect an understanding of the infection prevention strategies discussed and personal reflections on their application. (5 minutes)

Experiential-Learning 30.7 : Protozoal infectious diseases.

Total duration : 2 hours.

Presentations, Self-directed learning

The faculty should provide initial guidance on available resources and key topics related to protozoal infectious diseases. These should include classification, transmission, common protozoal pathogens like Plasmodium, Entamoeba, Giardia, and Leishmania, and their clinical significance. (15 minutes)

Students should be encouraged to conduct self-directed learning using textbooks, journal articles, and credible online sources. They will have to independently explore the epidemiology, life cycles, pathogenesis, and clinical presentations of various protozoal infections. (30 minutes)

Investigation techniques including microscopy, antigen detection, serological tests, and molecular diagnostics should be studied in detail by the students. They should correlate these methods with specific protozoal diseases and their clinical manifestations. (30 minutes)

Students should prepare individual or group presentations summarizing their findings. Each presentation will have to cover an overview of the selected protozoal infection, clinical features, diagnostic approaches, and recent advances in management. (30 minutes)

Faculty should facilitate a session where students deliver their presentations and engage in discussion. Constructive feedback will have to be provided to enhance understanding and clarify any misconceptions. (10 minutes)

At the end of the activity, students should submit a comprehensive report to the concerned faculty. The report should reflect their self-directed learning, presentation content, and critical insights gained throughout the activity. (5 minutes)

Experiential-Learning 30.8 : Helminthes infectious diseases.

Total duration : 2 hours.

Lecture with Video clips

The faculty should begin the session with an introductory lecture on helminthic infectious diseases. The classification of helminths, modes of transmission, and life cycles of common parasites such as Ascaris, Taenia, and Schistosoma should be outlined. The relevance of these infections in public health and clinical practice will also have to be

emphasized. (20 minutes)

Video clips demonstrating the morphology, life cycles, and microscopic identification of helminths should be shown. Students should observe key features such as eggs, larvae, and adult worms under different diagnostic conditions. These visual aids will have to enhance understanding of theoretical concepts. (30 minutes)

The clinical features associated with various helminthic infections should be discussed in detail. Students will have to learn to differentiate between gastrointestinal, pulmonary, hematological, and neurological symptoms based on the type of helminth involved. (20 minutes)

The investigations used in the diagnosis of helminthic infections should be explained using clinical case examples. Stool examination, serological tests, eosinophil counts, and imaging findings will have to be reviewed and correlated with case presentations shown in the video clips. (30 minutes)

Students should be given time to summarize the key learning points from the lecture and video clips. Important takeaways related to transmission, diagnosis, and clinical management will have to be noted and included in their report. (10 minutes)

At the end of the activity, students should submit a report to the concerned faculty. The report should include an overview of the helminthic infections discussed, their clinical features, diagnostic investigations, and the value of video demonstrations in enhancing understanding. (10 minutes)

Experiential-Learning 30.9 : Infection prevention and control.

Total duration : 2 hours.

Symposium, Workshops

The faculty should begin the session with a brief introduction on the significance of infection prevention and control in clinical practice. Key concepts such as standard precautions, transmission-based precautions, and hospital-acquired infections should be outlined to provide context. (10 minutes)

An invited talk should be delivered by healthcare professionals from a NABH-certified hospital. The professionals will have to present various infection control protocols including hand hygiene, use of personal protective equipment (PPE), environmental cleaning, biomedical waste management, and isolation techniques. (40 minutes)

Demonstrations of critical practices such as proper hand washing technique, donning and doffing PPE, and sterilization procedures should be shown to the students by the guest speakers. These demonstrations should be interactive and aligned with NABH standards. (30 minutes)

Students will have to participate in a Q&A session with the guest professionals. They should raise questions related to challenges in implementing infection control in different healthcare settings and clarify practical doubts regarding protocol adherence. (20 minutes)

Students should take notes during the session and summarize key learning points. The focus should be on applicable strategies they can implement in their future clinical practice. These summaries will later be included in the final report. (10 minutes)

At the end of the activity, each student should submit a report to the concerned faculty. The report should include an overview of the invited session, demonstrations observed, and personal reflections on the importance of infection prevention and control. (10 minutes)

Experiential-Learning 30.10 : Vaccination, immunization in infectious diseases.

Total duration : 2 hours.

Field Visit

The faculty should initiate the session by giving a brief orientation on the importance of vaccination and immunization in the prevention and control of infectious diseases. The national immunization schedule and disease-specific vaccine strategies should also be discussed. (15 minutes)

Students should be instructed on how to prepare informative vaccination charts and immunization displays. These materials should include age-wise immunization schedules, disease-specific vaccines, and relevant updates from national health programs. Visual clarity and factual accuracy will have to be ensured. (20 minutes)

The prepared charts and displays should be arranged in a designated area of the outpatient department (OPD), where patient and visitor footfall is significant. Students will have to set up the materials in a way that is easily visible and understandable to the general public. (15 minutes)

Students should engage with OPD visitors, providing brief verbal explanations about the importance of routine and catch-up immunizations. Common myths and doubts related to vaccines should be addressed with accurate information. Faculty and PG scholars should supervise and support this interaction. (40 minutes)

Observations during the awareness activity should be documented. Students will have to take note of frequently asked questions, public responses, and the overall impact of the display. These observations should later be incorporated into the final report. (20 minutes)

At the end of the activity, students should compile and submit a report to the concerned faculty. The report should include a summary of materials displayed, interactions held, common queries raised, and overall learning outcomes from the field visit. (10 minutes)

Experiential-Learning 30.11 : Functional anatomy and physiology of kidney and urinary tract.

Total duration : 2 hours.

Project-Based Learning

The faculty should begin the session with a short introduction on the functional anatomy and physiology of the kidney and urinary tract. Key topics such as nephron structure, renal blood flow, glomerular filtration, tubular functions, urine formation, and micturition should be outlined to guide the assignment preparation. (15 minutes)

Students should be divided into small groups and will have to be assigned subtopics covering various aspects of kidney and urinary tract structure and function. Each group should focus on a specific section such as cortical and medullary anatomy, renal circulation, or hormonal control of renal physiology. (15 minutes)

The groups will have to perform literature review and resource collection for their assigned subtopics. They should consult textbooks, peer-reviewed articles, and anatomy atlases to gather relevant and accurate information. Diagrams and flowcharts should be included where applicable. (30 minutes)

Each group should organize the collected data and begin drafting their project work. The content should be arranged in a logical sequence, covering structural details, physiological mechanisms, and their clinical significance. Faculty guidance should be available throughout this drafting phase. (30 minutes)

Students should refine their content, review for scientific accuracy and clarity, and format the assignment according to the provided guidelines. Final editing and compilation of the report will have to be completed collaboratively by each group. (25 minutes)

At the end of the activity, each group should submit their completed project work to the concerned faculty. Reports will be evaluated for content depth, anatomical and physiological accuracy, presentation clarity, and relevance. (5 minutes)

Experiential-Learning 30.12 : Kidney and urinary tract diseases with clinical correlation.

Total duration : 2 hours.

Case Diagnosis, Case-Based Learning, Lab Report Interpretation

The faculty should begin the session by providing a focused overview of common kidney and urinary tract diseases, emphasizing the relevance of diagnostic investigations such as urinalysis, serum creatinine, urea, electrolytes, imaging, and culture reports. The correlation between these tests and clinical conditions should be explained. (15 minutes)

Students should be divided into small groups and will have to be assigned a series of anonymized case summaries involving patients with different kidney and urinary tract pathologies, including glomerulonephritis, pyelonephritis, nephrotic syndrome, acute and chronic kidney disease, and urinary tract infections. (15 minutes)

Each group will have to interpret the provided investigation results. They should identify abnormal findings, explain the underlying pathophysiological mechanisms, and correlate them with the patient's clinical presentation. Faculty guidance should be available for clarification and validation. (30 minutes)

Following interpretation, the students should discuss probable diagnoses and differentials based on their findings. They will have to justify their reasoning using clinical evidence and laboratory parameters. Prognostic indicators should also be considered. (30 minutes)

Each group should prepare a brief report for each case, summarizing key findings, interpretations, and diagnostic conclusions. The report should also include clinical correlation and any suggested next steps in management. (25 minutes)

At the end of the activity, students should submit their reports to the concerned faculty. Feedback will have to be provided on the accuracy of interpretation, depth of clinical reasoning, and clarity of documentation. (5 minutes)

Experiential-Learning 30.13 : Case presentation on acute renal failure.

Total duration : 2 hours.

Case Diagnosis, Case-Based Learning, Lab Report Interpretation

The faculty should provide an introductory session on acute renal failure, including its classification, common etiologies (pre-renal, intrinsic, post-renal), and diagnostic criteria based on clinical and laboratory findings. Emphasis should be placed on identifying early signs and understanding the clinical course. (15 minutes)

Students should be divided into small groups and guided to retrieve and document data from ten previously admitted in-patient department (IPD) case sheets diagnosed with acute renal failure. Each group will have to select diverse cases representing different causes and outcomes of ARF. (25 minutes)

Investigations such as serum creatinine, blood urea nitrogen, electrolytes, urine output trends, and imaging reports from the case sheets should be interpreted by the students. Correlation between lab findings and disease severity should be discussed. This interpretation work will have to be supported by faculty supervision. (30 minutes)

Based on clinical features and investigation results, students should assess the prognosis in each case. They will have to identify key factors influencing outcomes, such as timing of diagnosis, underlying cause, comorbidities, and treatment interventions. This prognosis analysis should be critically discussed within the group. (25 minutes)

Each group should compile a detailed report summarizing the findings from the ten ARF cases. The report should include diagnosis, investigative interpretations, and prognosis considerations. It should be prepared collaboratively and reflect comprehensive learning. (20 minutes)

At the end of the activity, the compiled reports should be submitted to the concerned faculty for evaluation. Feedback on clinical reasoning, interpretation accuracy, and presentation clarity should be provided during subsequent sessions. (5 minutes)

Experiential-Learning 30.14 : Prevent calcium stone formation.

Total duration : 2 hours.

Lab Report Interpretation, Project-Based Learning

The faculty should provide an overview of calcium-containing kidney stones, including types, pathophysiology, risk factors, and common preventive strategies. The importance of individualized preventive care should also be highlighted. (15 minutes)

Students should be divided into small groups. Each group should be assigned a patient scenario involving calcium stone formation. They should collect information on dietary habits, fluid intake, medical history, and medications. Relevant lab findings such as urinary calcium, citrate, oxalate, and serum levels should also be reviewed and interpreted. (30 minutes)

Each group should conduct a literature review to identify evidence-based measures to prevent calcium stones. They should summarize findings related to dietary modifications (e.g., calcium and oxalate intake), fluid management, pharmacological options, and lifestyle changes. The findings should be applied to the assigned case. (30 minutes)

Students should prepare a detailed assignment report that includes a case summary, lab interpretation, and preventive strategies tailored to the patient's risk profile. The report should reflect critical thinking and integration of theoretical knowledge with practical application. (30 minutes)

At the end of the activity, students should submit their completed reports to the concerned faculty. The reports should be evaluated for clinical accuracy, depth of analysis, and relevance of recommended preventive measures. (15 minutes)

Experiential-Learning 30.15 : Indications for intervention to remove stones from urinary tract.

Total duration : 2 hours.

Case Diagnosis, Case-Based Learning, Discussions, Lab Report Interpretation

The faculty should provide an overview of urolithiasis, emphasizing the indications for surgical intervention, such as stone size, location, obstruction, infection, and associated symptoms. (15 minutes)

Students should be divided into small groups, each assigned a clinical case involving a patient with urolithiasis. They should analyze the case, interpret relevant lab reports, and identify indications for intervention based on the clinical presentation and diagnostic findings. (60 minutes)

Each group should present their case analysis, including the rationale for recommending or deferring intervention. The faculty should provide feedback, highlighting key learning points and addressing any misconceptions. (30 minutes)

At the end of the activity, students should compile their case analyses, including lab report interpretations and discussion points, into a comprehensive report and submit it to the concerned faculty. (15 minutes)

Experiential-Learning 30.16 : Urinary tract infections.

Total duration :2 hours.

Case Diagnosis, Case-Based Learning, Journal Club, Lab Report Interpretation, Presentations

The faculty should introduce the topic of urinary tract infections, discussing common pathogens, risk factors, clinical features, and standard diagnostic investigations. (15

minutes)

Students should conduct a literature review on urinary tract infections, focusing on recent studies, emerging risk factors, and advancements in diagnostic methods. They should prepare a summary of their findings for presentation. (45 minutes)

Each student or group should present their research findings, highlighting key insights and discussing the implications for clinical practice. (30 minutes)

The faculty should provide feedback on each presentation, facilitating a discussion on the clinical relevance of the findings and encouraging critical thinking. (15 minutes)

At the end of the activity, students should compile their research summaries, presentation slides, and discussion points into a comprehensive report and submit it to the concerned faculty. (15 minutes)

Modular Assessment

Assessment method	Hour
Conduct a structured modular assessment. Assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per the table 6C Long answer questions of 1 question (10 Marks) Short answer questions of 2 questions (10 Marks) Multiple choice questions (10 Marks) Spotters on “Smear for Malarial Parasite” (5 Marks) Class presentation on “Clinical examination in chronic kidney disease” (15 Marks) The class presentation assessment and evaluation process for students is tailored to assess their ability to apply clinical skills to communicate medical concepts and demonstrate patient care in CKD or Any practical in converted form can be taken for assessment (25 marks) and Any of the experiential as portfolio/ reflections /presentations can be taken as an assessment (25 marks)	4

Semester No : 6

Module 31 : Gastrointestinal disorders

Module Learning Objectives

(At the end of the module, the students should be able to)

Illustrate the normal physiology of the organs of the gastrointestinal system and accessory organs.
 Describe the mechanisms governing ingesting, propulsion, chemical and mechanical digestion, absorption, and defecation.
 Discuss the roles of the liver, pancreas, and gallbladder in digestion
 Summarize the approach to the evaluation of certain common gastrointestinal symptoms such as dysphagia, abdominal pain, diarrhea, constipation, malabsorption, jaundice, gastrointestinal bleeding
 Understand how the diagnostic tests in individuals with gastrointestinal diseases in an appropriate manner.

M 31 Unit 1 Essentials of Gastrointestinal Disease

31.1.1 Applied Anatomy and pathophysiology of gastrointestinal diseases 31.1.2 History, causes, clinical features, complications, Clinical examination of the Gastrointestinal tract diseases. 31.1.3 Common Investigations of gastrointestinal diseases.

References: 83,84,85,99,101,102,103,104,105,107,108,109,110,111,112,113,114,115,124,125,135,136,138,139,140,141,142,143

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Explain the common GI tract physiology,mechanisms governing ingesting,propulsion,chemical and mechanical digestion,absorption and defecation.	2	Lecture	CK	Knows-how	L&PPT
CO1,CO3	Describe the common signs and symptoms of the GIT disorders.	2	Practical Training 31.1	PSY-GUD	Shows-how	PER,L&PPT
CO1,CO3	Elicit history and do a clinical examination of a patient coming with GIT symptoms.	2	Experiential-Learning 31.1	PSY-ADT	Does	CBL,CD,DIS,D-BED
CO1,CO3	Identify the relevant necessary investigations to clinch the diagnosis in a patient with GI Diseases.	2	Experiential-Learning 31.2	PSY-ADT	Does	PSM,LRI
CO1,CO3	Interpret the basic USG, CT-Abdomen, endoscopy and colonoscopy findings.	1	Experiential-	PSY-	Does	LRI,DIS,

			Learning 31.3	GUD		CBL,CD
M 31 Unit 2 Essentials of Liver, Gall Bladder and Pancreas 31.2.1 Gastro Esophageal reflux disease (GERD) 31.2.2 Carcinoma of Esophagus 31.2.3 Gastritis 31.2.4 Peptic ulcer 31.2.5 Duodenal ulcer 31.2.6 Inflammatory bowel diseases and Ulcerative colitis References: 83,84,85,99,101,102,103,104,105,107,108,109,110,111,112,113,114,115,124,125,135,136,138,139,140,141,142,143						
3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Summarize the basic physiology and pathology of the alimentary system.	2	Lecture	CK	Knows-how	L&PPT
CO1,CO3	Enumerate the causes,etiopathogenesis,clinical features,complications,special investigations of the diseases of mouth cavity,esophagus and stomach - Stomatitis, hiatus hernia, Gastro esophageal reflux disease (GERD), esophageal cancer, gastritis, peptic ulcer, duodenal ulcer, stomach cancer.	3	Lecture	CK	Knows-how	L&PPT
CO1,CO3	Distinguish the difference between the peptic ulcer and duodenal ulcer.	2	Experiential-Learning 31.4	PSY-GUD	Does	DIS,PER
CO1,CO3	Present a case with GERD.	2	Practical Training 31.2	PSY-GUD	Shows-how	CD,CBL
CO1,CO3	Present a case with peptic ulcer.	2	Practical Training 31.3	PSY-GUD	Shows-how	D-BED,C D,CBL

CO1,CO3	Present a case with duodenal ulcer.	2	Practical Training 31.4	PSY-GUD	Shows-how	CD,D-BED,CBL
CO1,CO3	Summarize the causes, etiopathogenesis, clinical features, complications and special investigations of Inflammatory bowel disease.	2	Experiential-Learning 31.5	AFT-VAL	Does	ML,PBL,LS
CO1,CO3	Present a case with IBS.	2	Practical Training 31.5	PSY-GUD	Shows-how	CBL,DIS,CD
CO1,CO3	Summarize the causes, etiopathogenesis, clinical features, complications, and investigations of Ulcerative colitis.	2	Experiential-Learning 31.6	AFT-VAL	Does	CBL,CD
CO1,CO3	Present cases with Acute and Chronic pancreatitis.	2	Practical Training 31.6	PSY-GUD	Shows-how	CD,D-BED,LRI,CBL
CO1,CO3	Interpret the basic investigations like CT-Abdomen,Endoscopy,Colonoscopy.	2	Experiential-Learning 31.7	PSY-ADT	Does	LRI,DIS

M 31 Unit 3 Diseases of Liver, Gall Bladder and Pancreas

31.3.1 Applied Anatomy and pathophysiology of Liver, Gall bladder and pancreas 31.3.2 General examination of Liver, Gall bladder and pancreas 31.3.3 History, causes, clinical features, complications of the diseases of Liver, Gall bladder and pancreas. 31.3.4 Common investigations for Liver, Gall bladder and pancreas associated diseases

References: 83,84,85,99,101,102,103,104,105,107,108,109,110,111,112,113,114,115,124,125,135,136,138,139,140,141,142,143

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Observe the basic physiology of Liver,Gall bladder and pancreas.	2	Practical	PSY-SET	Shows-	L&PPT

			Training 31.7		how	
CO1,CO3	Demonstrate history taking in a patient presenting with Liver, Gall bladder and Pancreatic complaints.	2	Practical Training 31.8	PSY-MEC	Shows-how	CBL,CD
CO1,CO3	Perform the basic clinical examination of the liver, Gall bladder and pancreas in a patient	1	Experiential-Learning 31.8	AFT-RES	Does	CBL,CD
CO1,CO3	Distinguish the various commonly presenting signs and symptoms of GIT disorders on diagnosis.	1	Experiential-Learning 31.9	PSY-ADT	Does	TPW,PER,TBL
CO1,CO3	Interpret the basic investigations related with Liver, Gall bladder and pancreas.	1	Experiential-Learning 31.10	PSY-ADT	Does	DIS,LRI
CO1,CO3	Interpret the clinical presentations of the diseases of Liver,Gall bladder and pancreas	1	Experiential-Learning 31.11	PSY-ADT	Does	CD,D-BED,CBL,LRI

M 31 Unit 4 Diseases of Liver, Gall Bladder and Pancreas

31.4.1 Hepatitis (B,C) 31.4.2 Chronic Hepatitis 31.4.3 Cirrhosis 31.4.4 Hepatic failure 31.4.5 Hepatic carcinoma 31.4.6 Cholelithiasis 31.4.7 Acute and chronic Cholecystitis 31.4.8 Cholangitis 31.4.9 Secondary biliary cirrhosis 31.4.10 Biliary atresia 31.4.11 Acute pancreatitis, Chronic pancreatitis 31.4.12 Carcinoma of pancreas

References: 83,84,85,99,101,102,103,104,105,107,108,109,110,111,112,113,114,115,124,125,135,136,138,139,140,141,142,143

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Summarize the etiology,clinical features,types,examinations,investigations and complications of diseases of the liver – hepatitis B, hepatitis C,chronic hepatitis,hepatic carcinoma.	2	Experiential-Learning 31.12	CAN	Does	SY

CO1,CO3	Summarize the etiology,clinical features,types,examinations,investigations and complications of diseases of the liver – cirrhosis.	2	Lecture	CAN	Knows-how	L&PPT
CO1,CO3	Summarize the etiology,clinical features,types,examinations,investigations and complications of diseases of the Liver – hepatic failure.	1	Lecture	CAN	Knows-how	L&PPT
CO1,CO3	Present a case with hepatitis.	2	Practical Training 31.9	PSY-GUD	Shows-how	CBL,CD, LRI
CO1,CO3	Present a case with cirrhosis of liver.	2	Practical Training 31.10	PSY-GUD	Shows-how	CBL,CD, LRI
CO1,CO3	Enumerate the etiology,clinical features,types,examinations,investigations and complications of the diseases of the gall bladder – cholelithiasis, acute and chronic cholecystitis,choolangitis, secondary biliary cirrhosis and biliary atresia.	2	Experiential-Learning 31.13	CAN	Does	LS,CD,LRI
CO1,CO3	Present a case with cholelithiasis.	2	Experiential-Learning 31.14	CAN	Does	CBL,CD, LRI
CO1,CO3	Enumerate the etiology,clinical features,types,examinations,investigations and complications of diseases of the pancreas – acute pancreatitis,chronic pancreatitis and pancreatic cancer.	3	Experiential-Learning 31.15	AFT-VAL	Does	LRI,ML, LS

Practical Training Activity

Practical Training 31.1 : Signs and symptoms of the GIT disorders.

Total duration of the activity is (2 hours).

Lecture with PowerPoint presentation, Presentations

The procedure will be explained by the faculty and should be instructed to the students to follow under guidance (15 minutes)

Students have to be divided into two groups, and each group should be assigned to prepare a presentation on the signs and symptoms of GIT disorders (20 minutes)

Students should research and discuss within their groups to organize the content for their presentations (30 minutes)

Each group should present their prepared presentation to the faculty and peers, highlighting key signs and symptoms (40 minutes)

A question and answer session should be conducted to clarify doubts and reinforce learning (10 minutes)
At the end of the activity, students should submit a written report summarizing the signs and symptoms discussed (5 minutes)

Practical Training 31.2 : Case presentation on GERD.

Total duration of the activity is (2 hours).
Case Diagnosis, Case-Based Learning
The procedure will be explained by the faculty and should be instructed to the students to follow under guidance (15 minutes)
Students have to be divided into two groups, and each group should be assigned to observe patients with GERD in the IPD or OPD settings (10 minutes)
Students should perform history taking and clinical examination on the assigned cases to identify the clinical features of GERD (50 minutes)
Students should discuss and document the clinical features identified during the examination in a structured case sheet format (20 minutes)
The groups should present their findings to the faculty and peers, followed by discussion and clarification of doubts (15 minutes)
At the end of the activity, students should submit a detailed case report to the concerned faculty (10 minutes)

Practical Training 31.3 : Case presentation on peptic ulcer.

Total duration of the activity is (2 hours).
Case Diagnosis, Case-Based Learning, Demonstration Bedside
The procedure will be explained by the faculty and should be instructed to the students to follow under guidance (15 minutes)
Students have to be divided into two groups, and each group should be assigned to observe patients with peptic ulcer in the IPD or OPD settings (10 minutes)
Students should perform history taking and clinical examination on the assigned cases to identify the clinical features of peptic ulcer (50 minutes)
Students should discuss and document the clinical features identified during the examination in a structured case sheet format (20 minutes)
The groups should present their findings to the faculty and peers, followed by discussion and clarification of doubts (15 minutes)
At the end of the activity, students should submit a detailed case report to the concerned faculty (10 minutes)

Practical Training 31.4 : Case presentation on duodenal ulcer.

Total duration of the activity is (2 hours).
Case Diagnosis, Case-Based Learning, Demonstration Bedside
The procedure will be explained by the faculty and should be instructed to the students to follow under guidance (15 minutes)
Students have to be divided into two groups, and each group should be assigned to observe patients with duodenal ulcer in the IPD or OPD settings (10 minutes)
Students should perform history taking and clinical examination on the assigned cases to identify the clinical features of duodenal ulcer (50 minutes)
Students should discuss and document the clinical features identified during the examination in a structured case sheet format (20 minutes)
The groups should present their findings to the faculty and peers, followed by discussion and clarification of doubts (15 minutes)

At the end of the activity, students should submit a detailed case report to the concerned faculty (10 minutes)

Practical Training 31.5 : Case presentation on IBS.

Total duration of the activity is (2 hours)

Case Diagnosis, Case-Based Learning, Discussions

The procedure will be explained by the faculty and should be instructed to the students to follow under guidance (15 minutes)

Students have to be divided into two groups and asked to identify and document the clinical presentation of IBS case in OPD (90 minutes)

At the end of the activity, the scholars should submit a report to the concerned faculty (15 minutes)

Practical Training 31.6 : Acute and Chronic pancreatitis.

Total duration of the activity is (2 hours)

Case Diagnosis, Case-Based Learning, Demonstration Bedside, Lab Report Interpretation

The procedure will be explained by the faculty and should be instructed to the students to follow under guidance (15 minutes)

Students have to be divided into two groups and asked to discuss the clinical presentation of Acute and Chronic pancreatitis (90 minutes)

At the end of the activity, the scholars should submit a report to the concerned faculty (15 minutes)

Practical Training 31.7 : Physiology of Liver, Gall bladder and pancreas.

Total duration of the activity is (2 hours)

Lecture with PowerPoint presentation

The procedure will be explained by the faculty to the students and they should be instructed to follow the same under their guidance (15 minutes)

Students have to be divided into two groups and asked to present the basic physiology of the Liver, Gall bladder, and pancreas (90 minutes)

At the end of the activity, the scholars should prepare and submit a report to the concerned faculty (15 minutes)

Practical Training 31.8 : Liver, Gall bladder and Pancreatic complaints.

Total duration of the activity is (2 hours)

Case Diagnosis, Case-Based Learning

The procedure will be explained by the faculty to the students and they should be instructed to follow the same under their guidance (15 minutes)

Students have to be divided into two groups and asked to demonstrate history taking in patients presenting with Liver, Gall bladder and Pancreatic complaints (80 minutes)

At the end of the activity, students should prepare and submit a report to the concerned faculty (25 minutes)

Practical Training 31.9 : Clinical presentation on hepatitis.

Total duration of the activity is (2 hours)

Case Diagnosis, Case-Based Learning, Lab Report Interpretation

The procedure will be explained by the faculty to the students and they should be instructed to follow the same under their guidance (15 minutes)

Students have to be divided into two groups and asked to conduct clinical presentations on hepatitis (45 minutes)

Each group should demonstrate proper clinical examination techniques related to hepatitis (45 minutes)

At the end of the activity, scholars should prepare and submit a report summarizing their presentations and findings to the concerned faculty (15 minutes)

Practical Training 31.10 : Clinical presentation on cirrhosis of liver.

Total duration of the activity is (2 hours)

Case Diagnosis, Case-Based Learning, Lab Report Interpretation

The procedure will be explained by the faculty to the students and they should be instructed to follow the same under their guidance (15 minutes)

Students have to be divided into two groups and assigned to conduct clinical presentations on cirrhosis of the liver (45 minutes)

Each group should demonstrate proper clinical examination techniques related to cirrhosis of the liver (45 minutes)

At the end of the activity, scholars should prepare and submit a report summarizing their presentations and findings to the concerned faculty (15 minutes)

Experiential learning Activity

Experiential-Learning 31.1 : The patient coming with GIT symptoms.

The total duration : 2 hours.

Case Diagnosis, Case-Based Learning, Demonstration Bedside, Discussions

The students should be grouped and a brief orientation should be given by the faculty on the approach to history taking and clinical examination specific to gastrointestinal (GIT) symptoms. This should include a discussion on common presenting complaints such as abdominal pain, vomiting, diarrhoea, and bloating. (15 minutes)

Each group should be assigned a simulated or real patient case under supervision. History elicitation should be performed focusing on the onset, duration, character, associated symptoms, dietary history, and past medical history. Findings should be discussed among the group. (25 minutes)

Demonstration of inspection, palpation, percussion, and auscultation of the abdomen should be conducted by each group on a standardized patient or mannequin under faculty guidance. Proper technique and sequence should be followed and corrected if necessary. (30 minutes)

Each group should present their case findings to the faculty and peers, explaining the symptoms, likely diagnosis, and justification based on clinical signs. Differential diagnoses should also be encouraged. (20 minutes)

The faculty should conduct a discussion session to clarify any misunderstandings and emphasize the importance of correlating history with physical findings in GIT disorders. Key points on clinical reasoning and diagnostic approaches should be reinforced. (20 minutes)

At the end of the session, each student should be required to submit a brief report summarizing the patient's history, examination findings, and provisional diagnosis. (10 minutes)

Experiential-Learning 31.2 : Diagnosis in a patient with GI diseases.

Total duration : 2 hours.

Lab Report Interpretation, Problem-Solving Method

A brief patient scenario presenting with gastrointestinal symptoms should be introduced by the faculty to initiate clinical reasoning and focus on differential diagnosis. (10 minutes)

The importance of targeted investigations in GI diseases should be explained based on clinical presentation, emphasizing the need to avoid unnecessary tests. (10 minutes)

Common and specific investigations like CBC, LFTs, serum amylase/lipase, stool routine and culture, H. pylori testing, and celiac serology should be reviewed in groups.

Clinical relevance of each test should be linked with the case. (15 minutes)

Imaging studies such as abdominal ultrasound, X-ray, CT scan, and MRI should be discussed through sample reports and findings relevant to the given GI case. (15 minutes)

Endoscopic findings and biopsy results should be interpreted with guidance from faculty using images and reports from real or simulated cases. Clinical clues should be used to narrow the diagnosis. (20 minutes)

Scholars should be asked to identify the most essential investigations based on evolving clinical details. Justifications for test choices should be discussed in peer groups. (20 minutes)

Discussions should be facilitated on how overlapping features in GI diseases can lead to diagnostic uncertainty and how investigations help distinguish conditions. (15 minutes)

The PG scholars should be guided to construct a structured diagnostic approach for GI diseases, which should be summarized and validated by faculty. (15 minutes)

Experiential-Learning 31.3 : USG, CT-Abdomen, endoscopy and colonoscopy findings.

Total duration : 1 hour.

Case Diagnosis, Case-Based Learning, Discussions, Lab Report Interpretation

Students should be given pre-class reading materials related to normal and abnormal findings in USG, CT-Abdomen, endoscopy, and colonoscopy. The materials should be reviewed before the session. (10 minutes)

Faculty should initiate the group discussion by presenting clinical scenarios and showing sample images or reports of the respective investigations. Students should be encouraged to interpret the findings based on their prior knowledge. (15 minutes)

Students should be divided into small groups. Each group should be assigned a specific investigation (e.g., one group for USG, another for CT-Abdomen, etc.). They should

analyze and discuss typical and atypical findings under faculty guidance. (15 minutes)
 Each group should summarize their interpretations and present the key points to the entire class. Common diagnostic features and differences in imaging modalities should be highlighted. (10 minutes)
 Faculty should conclude the session by clarifying doubts, reinforcing interpretation techniques, and emphasizing clinical relevance. Students should reflect on their learning. (5 minutes)
 At the end of the session, students should submit a concise report detailing the major findings and interpretations for each modality discussed. (5 minutes)

Experiential-Learning 31.4 : Difference between the peptic ulcer and duodenal ulcer.

Total duration : 2 hours.
 Discussions, Presentations
 Students should be instructed to review the basic anatomy, aetiology, and pathogenesis of both peptic ulcer and duodenal ulcer before the session. Background reading should be completed. (15 minutes)
 An introductory discussion session should be conducted by the faculty highlighting the clinical and diagnostic differences between peptic ulcer and duodenal ulcer. Key features should be emphasized. (20 minutes)
 Students should be divided into small teams. Each team should be assigned to prepare flux materials that differentiate the two conditions based on causes, symptoms, investigation findings, complications, and management strategies. (45 minutes)
 Each team should present their prepared materials to the class. The presentation should include visual aids and schematic comparisons of the ulcers. (20 minutes)
 Faculty should give feedback and conduct a concluding discussion on the importance of distinguishing these ulcers in clinical practice. Students should reflect on learning outcomes. (10 minutes)
 At the end of the session, each student should submit a detailed report summarizing the differences between peptic and duodenal ulcers and their clinical relevance. (10 minutes)

Experiential-Learning 31.5 : Inflammatory bowel disease.

Total duration : 2 hours.
 Library Session, Mobile Learning, Problem-Based Learning
 A brief case scenario of a patient presenting with chronic diarrhea and abdominal pain suspected to be inflammatory bowel disease will have to be presented by the faculty to initiate clinical thinking and group discussion. This case will form the basis of problem-based learning. (10 minutes)
 PG scholars will have to explore the possible causes and risk factors of inflammatory bowel disease using mobile learning resources and reference apps. Key environmental, genetic, and immunological contributors should be noted and shared. (15 minutes)
 The etiopathogenesis of Crohn's disease and ulcerative colitis will have to be studied during a guided library session. Learners should refer to standard gastroenterology textbooks and summarize the immune mechanisms, cytokine roles, and mucosal changes. (20 minutes)

Each group will have to discuss and identify clinical features that distinguish Crohn's disease from ulcerative colitis, including gastrointestinal and extraintestinal manifestations. The clinical relevance of these findings should be emphasized. (20 minutes)

Complications such as fistula formation, strictures, toxic megacolon, bleeding, and risk of malignancy should be explored using mobile learning content. PG scholars will have to categorize these complications based on acute and chronic presentation. (20 minutes)

Learners will have to analyze which special investigations should be done to diagnose and monitor inflammatory bowel disease, including fecal calprotectin, colonoscopy findings, histopathology, and imaging techniques like MRI enterography. (20 minutes)

Each group will have to apply the knowledge gained to modify the original case scenario and propose a complete diagnostic plan and complication risk assessment. This plan will be presented and discussed in the classroom. (10 minutes)

A final summary session should be done by the faculty to integrate causes, pathogenesis, clinical presentation, and investigation approaches. Reflections from learners and feedback will have to be collected to assess engagement and understanding. (5 minutes)

Experiential-Learning 31.6 : Ulcerative colitis.

Total duration : 2 hours.

Case Diagnosis, Case-Based Learning

A brief clinical case of a patient with suspected ulcerative colitis should be presented by the faculty to initiate clinical engagement. (10 minutes)

The causes and risk factors of ulcerative colitis should be discussed through literature-guided group review to understand environmental, genetic, and immune components. (15 minutes)

The etiopathogenesis of ulcerative colitis should be elaborated with the help of schematic diagrams, focusing on immune dysregulation and mucosal barrier defects. (20 minutes)

The clinical features of ulcerative colitis should be analyzed using the case to identify gastrointestinal and systemic symptoms, along with severity grading. (15 minutes)

The complications such as toxic megacolon, perforation, strictures, and colorectal carcinoma should be discussed through problem-based case extensions. (20 minutes)

The required investigations including blood tests, stool analysis, endoscopy, and biopsy findings should be interpreted in relation to the clinical scenario. (20 minutes)

A summary discussion and diagnostic reasoning exercise should be conducted by scholars under faculty guidance, reinforcing key learning points. (20 minutes)

Experiential-Learning 31.7 : CT-Abdomen, Endoscopy, Colonoscopy.

Total duration : 2 hours.

Discussions, Lab Report Interpretation

At the beginning of the session, the faculty should provide a brief orientation on the importance of imaging and endoscopic investigations such as CT-Abdomen, Endoscopy, and Colonoscopy in the diagnosis of gastrointestinal conditions. The scope, indications, and interpretation basics should be introduced. (15 minutes)

The students should then be divided into small discussion groups. Each group should be given investigation reports or sample images of CT-Abdomen, Endoscopy, and Colonoscopy. The findings and patterns in these investigations should be carefully observed and discussed within the groups. (25 minutes)

Each group should be instructed to interpret the given investigation based on normal versus abnormal findings. The relevance of each finding in correlation with the patient's symptoms should be discussed. Common pathological features and clinical implications should be identified. (30 minutes)

One by one, the groups should present their interpretation to the entire class. Emphasis should be given to how the conclusion was drawn, what features supported it, and how it would guide further clinical management. Peer questioning should be encouraged during this interaction. (25 minutes)

Faculty should conclude the session by summarizing the key interpretations, addressing misconceptions, and reinforcing important diagnostic cues. Correct interpretation techniques and clinical correlation should be reiterated. (15 minutes)

At the end of the session, each student should be instructed to individually submit a brief written report on what investigation they interpreted, their findings, and how those findings are relevant to clinical diagnosis. (10 minutes)

Experiential-Learning 31.8 : Clinical examination of the liver, Gall bladder and pancreas

Total duration :1 hour.

Case Diagnosis, Case-Based Learning

Students should be introduced to the anatomical landmarks and clinical relevance of the liver, gall bladder, and pancreas by the faculty using case-based learning.

Demonstrations should be initiated with emphasis on inspection, palpation, percussion, and auscultation specific to each organ. (10 minutes)

Each student should perform clinical examination techniques for the liver, including palpation for hepatomegaly and percussion for liver span, under faculty supervision.

Guidance should be given as necessary. (15 minutes)

Students should then proceed to demonstrate examination techniques for the gall bladder, including checking for Murphy's sign and palpation in the right hypochondrium.

Observations should be recorded. (10 minutes)

Students should be guided to demonstrate techniques to evaluate pancreatic involvement such as epigastric palpation and eliciting deep tenderness. Differential diagnostic clues should be discussed. (10 minutes)

Each student should complete the examination for one mock patient case under supervision and feedback should be provided on accuracy and technique by the faculty. (10 minutes)

Students should summarize their observations and findings. A written report outlining their clinical approach and examination findings should be submitted to the concerned faculty. (5 minutes)

Experiential-Learning 31.9 : Signs and symptoms of GIT disorders.

Total duration :1 hour.

Presentations, Team Project Work, Team-Based Learning

At the start of the session, an introduction to the commonly presenting signs and symptoms of gastrointestinal (GIT) disorders should be provided by the faculty. The importance of early recognition and differentiation of these symptoms for accurate diagnosis should be emphasized. (10 minutes)

Students should be divided into small teams. Each team should be instructed to identify and list the major signs and symptoms associated with various GIT disorders such as

gastritis, peptic ulcer, irritable bowel syndrome, ulcerative colitis, Crohn's disease, and GERD. (10 minutes)

Each team should then be guided to organize the identified signs and symptoms in a structured and visually engaging manner. These should be arranged either anatomically or disease-wise for better understanding and easier reference. (15 minutes)

The teams should work collaboratively to design a diagnostic poster that visually represents the correlation between symptoms and potential diagnoses. Illustrations, keywords, and color coding should be encouraged to enhance quick recall and clarity. (15 minutes)

Once the poster preparation is complete, each team should present their poster to the class. Key elements of their design, their rationale for the organization of information, and how it aids in clinical diagnosis should be explained. (5 minutes)

The session should conclude with faculty feedback, where the posters should be evaluated for accuracy, completeness, clarity, and relevance. Suggestions for improvement should be given for better presentation and content quality. (5 minutes)

Experiential-Learning 31.10 : Investigations related to Liver,Gall bladder and pancreas.

Total duration :1 hour.

Discussions, Lab Report Interpretation

At the beginning of the session, an overview of the various basic investigations related to liver, gall bladder, and pancreas should be presented by the faculty. This overview should include blood tests such as liver function tests, pancreatic enzymes, and relevant inflammatory markers, as well as imaging modalities like ultrasound, CT scan, and MRCP. (10 minutes)

The students should then be divided into small groups. Each group should be assigned specific investigations to review and discuss in relation to their clinical utility, interpretation, and relevance in diagnosing diseases of the hepatobiliary and pancreatic systems. (15 minutes)

Within each group, case-based discussions should be facilitated. Investigative values from sample lab reports or case records should be interpreted by the group members, identifying patterns associated with common diseases such as hepatitis, pancreatitis, and cholelithiasis. (15 minutes)

Each group should then present a summary of their discussion to the entire class, highlighting the significance of the investigations they reviewed and any challenges faced in interpreting them. Other groups may be encouraged to ask questions and offer suggestions to enhance collaborative learning. (10 minutes)

Following the group presentations, a faculty-led discussion should be conducted to clarify key points, address any misconceptions, and emphasize the importance of correlating clinical findings with laboratory and imaging results. (5 minutes)

At the end of the session, each student should be instructed to prepare and submit an individual report summarizing the investigations discussed, their diagnostic relevance, and key learnings from the session. This report should be submitted to the concerned faculty for review and feedback. (5 minutes)

Experiential-Learning 31.11 : Diseases of Liver, Gall bladder and pancreas.

Total duration : 1 hour.

Case Diagnosis, Case-Based Learning, Demonstration Bedside, Lab Report Interpretation

In this session, the PG scholars should be guided to differentiate the clinical presentations of diseases of the liver, gall bladder, and pancreas. A brief introduction regarding

the anatomy, physiology, and common pathological conditions of these organs should be provided by the faculty through case-based instruction. The emphasis should be placed on identifying clinical signs and symptoms relevant to each organ system. (5 minutes)

A short demonstration should be conducted by the faculty at the bedside or using simulated models to show the standard methods of clinical examination of the liver, gall bladder, and pancreas. Important physical signs, such as liver span, Murphy's sign, and Courvoisier's sign, should be highlighted during the demonstration. (10 minutes)

Each PG student should then individually perform the basic clinical examination techniques under supervision. The examinations should include inspection, palpation, percussion, and auscultation related to hepatobiliary and pancreatic systems. Any abnormal findings should be noted and discussed. (25 minutes)

The students should then be guided to correlate the clinical findings with possible diagnoses. Sample case scenarios should be provided for discussion, and lab investigation reports should be interpreted collaboratively to reinforce diagnostic reasoning. (10 minutes)

At the end of the session, a summary and clarification of doubts should be facilitated by the faculty. The importance of integrating clinical findings with diagnostic tools should be reiterated. Each student should be instructed to submit a concise report based on their examination findings and interpretations, which the faculty should review later. This report submission should be done immediately after the session. (10 minutes)

Experiential-Learning 31.12 : Hepatitis B, hepatitis C, chronic hepatitis, hepatic carcinoma.

The total duration: 2 hours.

Symposium

The faculty should begin the session with a brief introduction on the objectives and importance of understanding liver diseases such as hepatitis B, hepatitis C, chronic hepatitis, and hepatic carcinoma (10 minutes)

Each group of PG scholars should be assigned one of the topics (hepatitis B, hepatitis C, chronic hepatitis, hepatic carcinoma) and a representative from each group should present the aetiology and types of their assigned condition (10 minutes)

The clinical features of each liver disease should be presented by the respective group members, focusing on symptom patterns and disease-specific signs (20 minutes)

The physical examination findings and relevant clinical signs in liver diseases should be explained, including hepatomegaly, jaundice, ascites, and other findings (20 minutes)

Each group should present key investigations including liver function tests, serology (HBsAg, anti-HCV), imaging (ultrasound, CT), and biopsy, with interpretation guidance (20 minutes)

Complications such as cirrhosis, portal hypertension, liver failure, and hepatocellular carcinoma should be discussed by the groups with clinical relevance and progression (20 minutes)

An open discussion among groups should be facilitated by the faculty to compare and contrast different liver diseases and to clarify doubts (10 minutes)

The session should be concluded by the faculty with a summary of the major points, highlighting the differences and overlaps in liver diseases, and key takeaways should be reinforced (10 minutes)

Experiential-Learning 31.13 : Cholelithiasis, acute and chronic cholecystitis, cholangitis, secondary biliary cirrhosis and biliary atresia.

The total duration : 2 hours.

Case Diagnosis, Lab Report Interpretation, Library Session

A clinical case involving a patient with right upper quadrant pain and suspected gall bladder disease will have to be presented by the faculty to initiate discussion on differential diagnosis and approach. The case should serve as the foundation for problem-solving. (10 minutes)

PG scholars will have to review and summarize the etiology and risk factors for cholelithiasis, cholecystitis, cholangitis, secondary biliary cirrhosis, and biliary atresia using standard textbooks during a structured library session. Relevant findings should be discussed in groups. (20 minutes)

Different types of gall bladder diseases, including acute versus chronic presentations and obstructive versus non-obstructive patterns, will have to be differentiated and outlined by the learners based on the case and literature. (15 minutes)

Clinical features such as pain pattern, Murphy's sign, fever, jaundice, and signs of complications should be identified and interpreted by each group. Learners will have to relate clinical examination findings to the underlying pathology. (15 minutes)

Lab reports including liver function tests, complete blood counts, and inflammatory markers will have to be analyzed by PG scholars to interpret patterns typical of cholecystitis, cholangitis, or biliary obstruction. Emphasis should be placed on clinical-laboratory correlation. (20 minutes)

Relevant imaging and special investigations such as ultrasound, MRCP, ERCP, and HIDA scan should be discussed by the groups. Each investigation will have to be justified based on the diagnostic value in the given clinical setting. (20 minutes)

Complications such as gall bladder perforation, abscess, ascending cholangitis, cirrhosis, and biliary sepsis should be identified by learners. These complications should be discussed in terms of clinical consequences and emergency recognition. (10 minutes)

A complete diagnosis and management plan for the case will have to be formulated and presented by each group. The plan should include further investigations, monitoring, and referral strategies. (5 minutes)

A summary discussion should be done by the faculty to reinforce the key clinical and investigative aspects of gall bladder diseases. Feedback will have to be collected from PG scholars to conclude the session. (5 minutes)

Experiential-Learning 31.14 : Clinical presentation on cholelithiasis.

The total duration : 2 hours.

Case Diagnosis, Case-Based Learning, Lab Report Interpretation

Each candidate conducts clinical presentations on cholelithiasis and demonstrates proper examinations. (2 hours)

The faculty should introduce the objective of the session and provide a brief orientation on the importance of accurately diagnosing and presenting cases of cholelithiasis (10 minutes)

Each PG scholar should be assigned a turn to present a clinical case of cholelithiasis, including history taking, symptom analysis, and case summary (30 minutes)

Proper abdominal examination techniques focusing on signs of cholelithiasis (e.g., Murphy's sign) should be demonstrated by each candidate on either a standardized patient or volunteer (20 minutes)

Candidates should be guided to interpret relevant lab reports such as liver function tests, complete blood count, and ultrasound findings typically associated with

cholelithiasis (20 minutes)

Following each presentation, a brief peer and faculty discussion should be conducted to assess the accuracy, completeness, and clarity of clinical presentation and examination (20 minutes)

Each PG scholar should summarize the key learning points from their case and make a note of diagnostic red flags and common examination pitfalls (10 minutes)

The session should be concluded by the faculty with a discussion on a standardized approach to clinical presentation, the importance of correlating lab findings and reinforcing examination skills (10 minutes)

Experiential-Learning 31.15 : Acute pancreatitis, chronic pancreatitis and pancreatic cancer.

Total duration :3 hours.

Lab Report Interpretation, Library Session, Mobile Learning

A case of a patient with severe epigastric pain radiating to the back, suspected acute pancreatitis, should be presented by the faculty to initiate clinical reasoning. This case will guide problem-based learning. (15 minutes)

The etiology of acute and chronic pancreatitis and pancreatic cancer should be studied using mobile learning tools, focusing on key risk factors. (20 minutes)

Clinical features of the conditions should be reviewed from textbooks during a library session and summarized by PG scholars. (25 minutes)

Types and severity grading should be outlined using scoring systems like Ranson's and Atlanta classification, with focus on disease progression. (25 minutes)

Examination findings such as tenderness, mass, and signs like Cullen's and Grey Turner's should be interpreted and discussed for severity correlation. (20 minutes)

Lab reports including amylase, lipase, CRP, and CA 19-9 should be interpreted to differentiate between conditions. (25 minutes)

Relevant imaging like USG, CT, MRCP, and EUS should be discussed, with justification for their use. (25 minutes)

Complications like pseudocyst, necrosis, and malignancy should be explored and presented with clinical signs and diagnosis. (25 minutes)

Diagnostic and investigation flowcharts should be created and presented by each group for peer and faculty review. (15 minutes)

A wrap-up session should be done by the faculty to integrate key points and collect feedback from learners. (15 minutes)

Modular Assessment

Assessment method

Hour

Conduct a structured modular assessment. Assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per the table 6C

4

Long answer questions of 1 question (10 Marks)

Short answer questions of 2 questions (10 Marks)

Case-based assessment (20 Marks)

On case presentation on GERD"

- Provide a patient for clinical examination to the student
- Assess the student step by step activities
- Assess the student's history taking and clinical examination and case sheet writing
- Assess the student's on performing final diagnosis by using modern diagnostic procedures

Clinical oral examination (10 Marks)

or
Any practical in converted form can be taken for assessment (25 marks)
and
Any of the experiential as portfolio/reflections/presentations can be taken as an assessment (25 marks)

Module 32 : Oncology & Geriatrics

Module Learning Objectives

(At the end of the module, the students should be able to)

Understand the development of cancer, including the progression from normal cells to malignant cells, and be able to define cancer, its classification, and associated risk factors.
Describe the principles of cancer screening and prevention, and summarize the basic concepts of cancer management including chemotherapy, surgical treatment, and radiation therapy.
Define geriatrics, recognize common health problems in elderly patients, and demonstrate appropriate history taking, clinical examination, and management of these conditions.

M 32 Unit 1 Essentials of Oncology

32.1.1 Basic biology of cells, etiology and epidemiology of various cancer 32.1.2 Classification and location of cancer 32.1.3 Clinical examination and cancer screening methods 32.1.4 Basic science of cancer diagnostics, detection and prevention

References: 83,84,85,99,101,102,103,104,105,107,108,109,110,111,112,113,114,115,117,124,125,127,135,136,138,139,140,141,142,143

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Observe the healthy cell biology and location of the different types of cells in the body and their abnormality.	1	Practical Training 32.1	PSY-SET	Shows-how	PER,PrB L
CO1,CO3	Summarize the etiopathogenesis and classifications of cancer.	1	Practical Training 32.2	PSY-SET	Shows-how	L&PPT ,DIS,PER
CO1,CO3	Differentiate the multifactorial risk factors of various types and stages of the cancer.	1	Experiential-Learning 32.1	AFT-VAL	Does	L&GD,B S,ML,TB L,DIS
CO1,CO3	Differentiate the benign and malignant type of tumors.	1	Practical Training 32.3	PSY-SET	Shows-how	L_VC
CO1,CO3	Enumerate the basic cancer screening methods, the tumor markers and special investigations for cancers	1	Experiential-Learning 32.2	AFT-VAL	Does	C_L,LS,L RI,ML,S DL

M 32 Unit 2 Organ Specific Cancer

32.2.1 General approach to various types of organ specific cancer 32.2.2 Common symptoms, Clinical examination, screening methods, investigations, preventive measures of various cancer 32.2.3 Oral cancer 32.2.4 Lung cancer 32.2.5 Cervical and Ovarian cancer 32.2.6 Prostate cancer 32.2.7 Breast cancer 32.2.8 Colorectal cancer

References: 83,84,85,99,101,102,103,104,105,107,108,109,110,111,112,113,114,115,117,124,125,127,135,136,138,139,140,141,142,143

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Describe the general considerations, classification of cancer based on organs of the body	2	Lecture	CC	Knows-how	L&PPT
CO1,CO3	Describe types of organ specific cancer according to National cancer institute	2	Lecture	CC	Knows-	L&PPT

					how	
CO1,CO3	Describe aetiology, clinical features, screening methods, special investigations and preventive measures for oral cancer	2	Lecture	CC	Knows-how	L&PPT
CO1,CO3	Presesnt a case with Oral cancer by screening.	2	Practical Training 32.4	PSY-GUD	Shows-how	TPW,CB L,FV,CD
CO1,CO3	Describe aetiology, risk factors, clinical features, screening methods, special investigations and preventive measures for breast cancer	2	Lecture	CC	Knows-how	L&PPT
CO1,CO3	Present a case with Breast cancer by screening.	2	Practical Training 32.5	PSY-MEC	Shows-how	CD,TPW, FV,CBL
CO1,CO3	Present a case with breast cancer.	2	Practical Training 32.6	PSY-MEC	Shows-how	CBL,D-B ED,LRI,C D
CO1,CO3	Summarize the aetiology, risk factors, clinical features, special investigations and preventive measures for Colorectal cancer.	2	Experiential-Learning 32.3	PSY-ADT	Does	LS,TPW, TBL
CO1,CO3	Summarize the aetiology, risk factors, clinical features, special investigations and preventive measures for prostate cancer	2	Experiential-Learning 32.4	PSY-ADT	Does	ML,PBL
CO1,CO3	Summarize the aetiology, risk factors, clinical features, screening methods, special investigations and preventive measures for cervical and ovarian cancer.	2	Experiential-Learning 32.5	PSY-ADT	Does	LRI,CD,C BL
CO1,CO3	Present a case with cervical cancer by screening.	2	Practical Training 32.7	PSY-MEC	Shows-how	LRI,FV,C D,CBL
CO1,CO3	Demonstrate life style modification and diet advice in cancer patients.	2	Practical Training 32.8	PSY-MEC	Shows-how	FV,TPW, PrBL

CO1,CO3	Differentiate the cancer management including chemo, surgical, and radiation therapy.	2	Experiential-Learning 32.6	AFT-VAL	Does	TPW,LS
CO1,CO3	Enumerate national programs for cancer prevention.	2	Experiential-Learning 32.7	AFT-VAL	Does	FV

M 32 Unit 3 Essentials of Geriatric Care

32.3.1 5 M's of geriatric care (Medications, Mind, Mobility, Multi complexity and matters most) 32.3.2 Management of general health problems 32.3.3 Care for sensory and nervous systems of geriatric people 32.3.4 Counselling, Diet advice and common medical advice

References: 83,84,85,99,101,102,103,104,105,107,108,109,110,111,112,113,114,115,117,118,119,124,125,128,135,136,138,139,140,141,142,143,158

3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Analyze ageing in geriatrics and the objectives of geriatric care.	2	Experiential-Learning 32.8	PSY-SET	Does	DIS,C_L,ML,LS
CO1,CO3	Summarize 5M's of geriatric care {mind,mobility,5M's of geriatric care medications, multi complexity, matters most}	2	Experiential-Learning 32.9	PSY-SET	Does	ML,DIS,LS
CO1,CO3	Figure out early detection and management of general health problems in geriatric patients.	2	Practical Training 32.9	PSY-ADT	Shows-how	CBL,FV,LRI
CO1,CO3	Enumerate special care for coordination and sensory system management in geriatric people.	2	Experiential-Learning 32.10	CE	Does	TPW,PrB L,FV
CO1,CO3	Execute general counselling and diet advice for geriatric people.	2	Practical Training 32.1	PSY-SET	Shows-how	FV

			0			
M 32 Unit 4 Common Geriatric Problems 32.4.1 Chronic conditions include diabetes, osteoporosis, Alzheimer's, dementia, and Parkinson's disease 32.4.2 Sleep disturbances 32.4.3 Hearing and vision loss as a part of normal aging. 32.4.4 Oral health issues like tooth loss, root decay, gum disease, dry mouth References: 83,84,85,99,101,102,103,104,105,107,108,109,110,111,112,113,114,115,118,124,125,128,133,134,135,136,137,138,139,140,141,142,143,144,145,147,148,149,150						
3A	3B	3C	3D	3E	3F	3G
CO1,CO3	Assess the nutritional and health status by history taking in Geriatric cases.	2	Practical Training 32.11	CE	Shows-how	PrBL,CB L,TPW,L RI,CD
CO1,CO3	Demonstrate clinical examination in geriatric patients.	1	Practical Training 32.12	CE	Shows-how	CD,LRI,C BL
CO1,CO3	Enumerate the common geriatric health problems like Dementia, fall, urinary incontinence, tooth decay and sleep disturbances	2	Lecture	CC	Knows-how	L&PPT
CO1,CO3	Educate sleep management in Geriatric patients.	2	Experiential-Learning 32.11	PSY-ADT	Does	FV
CO1,CO3	Construct Proper management of Comorbidities in geriatric patients.	2	Experiential-Learning 32.12	PSY-ORG	Does	ML,LS,T BL,C_L, DIS
CO1,CO3	Demonstrate general oral hygiene in Geriatric cases.	2	Experiential-Learning 32.13	PSY-MEC	Does	D,TPW,P ER

CO1,CO3	Lay out diet and medical advice for Geriatric patients.	2	Experiential-Learning 32.14	PSY-MEC	Does	EDU
Practical Training Activity						
Practical Training 32.1 : Healthy cell biology and location of the different types of cells in the body and their abnormality.						
Total duration of the activity is (1 hour) Presentations, Project-Based Learning The overview of the activity and objectives should be explained by the faculty to the students (10 minutes) Students should be instructed on how to conceptualize short educational video clippings highlighting the structure and function of healthy cells, and how abnormalities manifest (10 minutes) Students should be grouped and the topics should be assigned for different types of cells and corresponding disorders (10 minutes) The video clippings should be prepared by the students, focusing on biological accuracy, visuals, and clarity (25 minutes) At the end, a report summarizing the video topic and reflections should be submitted by the scholars (5 minutes)						
Practical Training 32.2 : Etiopathogenesis and classifications of cancer.						
Total duration of the activity is (1 hour) Discussions, Lecture with PowerPoint presentation, Presentations The procedure will be explained by the faculty and instructions should be given to the students for the presentation task (10 minutes) Students should be divided into two groups and topics should be assigned: one group for etiopathogenesis and the other for classifications of cancer (10 minutes) Each group should prepare a PowerPoint presentation highlighting their respective topic using scientific references and visual aids (15 minutes) The presentations have to be delivered by both groups, followed by a short discussion or clarification session (20 minutes) At the end of the session, students should submit a brief report covering the key points of their topic and peer insights (5 minutes)						
Practical Training 32.3 : The benign and malignant type of tumors.						
Total duration of the activity is (1 hour) Lecture with Video clips The faculty will explain the procedure and should be instructed to the students under their guidance (10 minutes) Students should be grouped and tasked to collect characteristic features of benign and malignant tumors, including clinical behavior, histopathology, metastasis, and recurrence (15 minutes)						

Students have to prepare short video clips or slide presentations to demonstrate the differences between benign and malignant tumors (20 minutes)
The prepared clips should be presented to peers and faculty for discussion and feedback (10 minutes)
At the end of the session, students should submit a report summarizing their learning and creative presentation to the concerned faculty (5 minutes)

Practical Training 32.4 : Oral cancer screening.

Total duration of the activity is (2 hours)
Case Diagnosis, Case-Based Learning, Field Visit, Team Project Work
The faculty will explain the procedure and should be instructed to the students to follow under their guidance (15 minutes)
Students have to be divided into two groups, and each group should be assigned to explore various oral cancer screening methods, including visual inspection, palpation, toluidine blue staining, and adjunctive diagnostic tools (20 minutes)
Each group should collect relevant data and prepare necessary IEC materials for awareness and presentation purposes (30 minutes)
The groups should organize their collected content into structured PowerPoint or chart presentations (15 minutes)
Students should present their findings to the faculty and peers, followed by a discussion and clarification session on oral cancer screening approaches (30 minutes)
At the end of the session, students should submit a consolidated report summarizing their presentation and references to the concerned faculty (10 minutes)

Practical Training 32.5 : Breast cancer screening.

Total duration of the activity is (2 hours)
Case Diagnosis, Case-Based Learning, Field Visit, Team Project Work
The faculty will explain the procedure and should be instructed to the students under their guidance (15 minutes)
Students have to be divided into two groups, and each group should be assigned to explore different screening methods for breast cancer, including self-examination, clinical breast examination, and mammography (20 minutes)
Each group should collect relevant data, guidelines, and IEC materials to support their presentation on breast cancer screening (30 minutes)
The groups should organize their content and prepare a structured PowerPoint or visual presentation (15 minutes)
Students should present their findings to the faculty and peers, followed by an interactive discussion and clarification of queries (30 minutes)
At the end of the session, students should submit a written report summarizing their presentation and references to the concerned faculty (10 minutes)

Practical Training 32.6 : Breast cancer case presentation

Total duration of the activity is (2 hours)
Case Diagnosis, Case-Based Learning, Demonstration Bedside, Lab Report Interpretation
The faculty will explain the procedure and should be instructed to the students under proper supervision (15 minutes)

Students have to be divided into two groups, and each group should be assigned to identify and document the clinical features of breast cancer cases from available case records or bedside observation (20 minutes)

Students should perform relevant history taking and clinical examination or record review to identify key clinical findings in breast cancer (40 minutes)

Each group should organize the findings into a structured case format and prepare for presentation (15 minutes)

The groups should present their case reports to the faculty and peers, followed by discussion and expert inputs (20 minutes)

At the end of the session, students should submit a detailed written report of their case presentation to the concerned faculty (10 minutes)

Practical Training 32.7 : Cervical cancer screening.

Total duration :2 hours.

Case Diagnosis, Case-Based Learning, Field Visit, Lab Report Interpretation

The faculty will explain the procedure and should be instructed to the students to follow under guidance (15 minutes)

Students have to be divided into two groups, and each group should be assigned to research and prepare a presentation on cervical cancer screening methods (40 minutes)

Each group should present their findings on cervical cancer screening methods to faculty and peers (30 minutes)

A question-and-answer session should be conducted to clarify doubts and deepen understanding (20 minutes)

At the end of the activity, students should submit a detailed report on cervical cancer screening methods to the concerned faculty (15 minutes)

Practical Training 32.8 : Life style modification and diet advice in cancer patients.

Total duration of the activity is (2 hours).

Field Visit, Project-Based Learning, Team Project Work

The faculty will explain the procedure and should be instructed to the students to follow under guidance (15 minutes)

Students have to be divided into two groups, and each group should be assigned to prepare IEC materials focused on lifestyle modification and diet advice for cancer patients (40 minutes)

Each group should have to plan and conduct awareness sessions or field visits where they provide education using the prepared IEC materials (40 minutes)

Students have to discuss and document the key points covered and feedback received during the awareness sessions (15 minutes)

At the end of the activity, students should submit a detailed report to the concerned faculty (10 minutes)

Practical Training 32.9 : Early detection and management of general health problems in geriatric patients.

Total duration of the activity is (2 hours).

Case-Based Learning, Field Visit, Lab Report Interpretation

The faculty will explain the procedure and should be instructed to the students to follow under guidance (15 minutes)

Students have to be divided into two groups, and each group should be assigned to prepare a standard questionnaire for early detection of general health problems in geriatric

patients (30 minutes)

Each group should have to discuss and finalize the questionnaire, ensuring it covers relevant health parameters and management aspects (20 minutes)

Groups have to conduct a field visit or simulated session to apply the questionnaire for detecting health problems and suggesting early management strategies (40 minutes)

Students should be asked to compile their findings, analyze the data collected, and document their observations and recommendations (10 minutes)

At the end of the activity, students should submit a detailed report to the concerned faculty (5 minutes)

Practical Training 32.10 : General counselling and diet advice for geriatric people.

Total duration of the activity is (2 hours).

Field Visit

The faculty will explain the procedure and should be instructed the students to follow under guidance (15 minutes)

Students have to be divided into two groups, and each group should be assigned to prepare and review appropriate IEC materials related to general counselling and diet advice for geriatric people (30 minutes)

Each group should conduct a field visit to a community or geriatric care centre to distribute the IEC materials and provide counselling on diet and healthy lifestyle (50 minutes)

Groups should be asked to collect feedback or observe responses from the community members during the counselling session (15 minutes)

Students should have to discuss their experiences, document the counselling process, and submit a detailed report to the concerned faculty (10 minutes)

Practical Training 32.11 : Nutritional and health status by history taking in Geriatric cases.

Total duration of the activity is (2 hours).

Case Diagnosis, Case-Based Learning, Lab Report Interpretation, Project-Based Learning, Team Project Work

The procedure will be explained by the faculty and should be instructed to the students to follow under guidance (15 minutes)

Students have to be divided into two groups, and each group should be assigned to prepare a well-designed proforma for history taking to assess the nutritional and health status of geriatric people (30 minutes)

Groups should have to discuss and finalize the proforma incorporating relevant sections such as dietary habits, medical history, medication, physical activity, and social factors (30 minutes)

Each group should have to present their proforma to the faculty and peers for review and constructive feedback (25 minutes)

Students should revise and submit the final proforma along with a brief report explaining the rationale and key components included (20 minutes)

Practical Training 32.12 : Clinical examination in geriatric patients.

Total duration of the activity is (1 hour).

Case Diagnosis, Case-Based Learning, Lab Report Interpretation

The procedure will be explained by the faculty and should be instructed to the students to follow under guidance (5 minutes)
 Students have to be divided into small groups, and each group should be assigned to conduct clinical examinations in geriatric cases (10 minutes)
 Students should perform a thorough clinical examination on the assigned geriatric patients, focusing on age-related changes and common geriatric conditions (30 minutes)
 Students should discuss their findings within the group and document the clinical features observed in a structured case sheet format (10 minutes)
 At the end of the activity, students should submit a detailed clinical examination report to the concerned faculty (5 minutes)

Experiential learning Activity

Experiential-Learning 32.1 : Various types of cancer and the various stages of the cancer.

Total duration :1 hour.
 Brainstorming, Discussions, Lecture & Group Discussion, Library Session, Mobile Learning, Team-Based Learning
 The faculty should begin the session by briefly introducing the multifactorial risk factors associated with various types of cancer and outlining the different stages of cancer progression. (5 minutes)
 Students should be divided into groups and instructed to engage in focused group discussions to identify and analyze the various risk factors contributing to different cancers, using textbooks, journals, and mobile learning resources. (20 minutes)
 Each group should then be tasked with discussing the classification and characteristics of the various stages of cancer, emphasizing their clinical significance and impact on prognosis and treatment. (15 minutes)
 Following the group discussions, students should present their key findings and insights to the entire class to facilitate peer learning and clarification of complex concepts. (10 minutes)
 Students should be assigned a brief independent library or online session to supplement their knowledge with the latest research and guidelines related to cancer risk factors and staging. (5 minutes)
 At the end of the activity, students should compile their group discussion outcomes and individual reflections into a concise report to be submitted to the concerned faculty for evaluation. (5 minutes)

Experiential-Learning 32.2 : Cancer screening methods, describe the tumor markers and special investigations for cancers.

Total duration : 1 hour.
 Co Learning, Discussions, Lab Report Interpretation, Library Session, Mobile Learning, Self-directed learning

The faculty should begin the session by briefly introducing the basic cancer screening methods, tumour markers, and special investigations commonly used in cancer diagnosis and monitoring. (5 minutes)

Students should be divided into groups and instructed to engage in group discussions to explore the various screening techniques, their indications, and limitations, using textbooks, journal articles, and mobile learning resources. (20 minutes)

Each group should then discuss different tumour markers, including their clinical relevance, specificity, and sensitivity in cancer detection and management. (15 minutes)

The groups should also analyze special investigations such as imaging and biopsy techniques, focusing on their role in confirming the diagnosis and staging of cancers. (10 minutes)

Students should be encouraged to conduct brief independent library or online sessions to update their knowledge on recent advancements in cancer screening and diagnostics. (5 minutes)

At the end of the activity, students should compile their discussion outcomes and reflections into a detailed report to be submitted to the concerned faculty for evaluation and feedback. (5 minutes)

Experiential-Learning 32.3 : Colorectal cancer.

Total duration : 2 hours.

Library Session, Team Project Work, Team-Based Learning

A clinical case of a middle-aged patient presenting with altered bowel habits and rectal bleeding suspected for colorectal cancer should be introduced by the faculty to initiate clinical reasoning and team-based learning. (10 minutes)

The aetiology and risk factors including age, diet, smoking, alcohol use, family history, and genetic syndromes like FAP and HNPCC should be explored by PG scholars through library session resources and discussed in teams. (20 minutes)

Clinical features such as change in bowel habits, blood in stools, anemia, abdominal discomfort, and weight loss should be reviewed and correlated with the clinical case. (15 minutes)

Special investigations including colonoscopy, biopsy, carcinoembryonic antigen (CEA) levels, CT colonography, and staging work-up should be identified and interpreted by learners in groups. (20 minutes)

Preventive strategies like dietary modification, screening guidelines, colonoscopic surveillance, and genetic counseling should be explored using current guidelines and discussed in teams. (20 minutes)

Each group will have to prepare a team project on screening or early detection strategies for colorectal cancer, which could be implemented in a clinical or community setting. (25 minutes)

A concluding discussion should be conducted by the faculty to summarize key concepts, clarify doubts, and collect feedback from learners. (10 minutes)

Experiential-Learning 32.4 : Prostate cancer.

Total duration : 2 hours.

Mobile Learning, Problem-Based Learning

A clinical case of an elderly male with urinary symptoms suspected to have prostate cancer should be presented by the faculty to start problem-based learning. (15 minutes)

Etiology and risk factors like age, genetics, and lifestyle should be studied using mobile learning and discussed in groups. (20 minutes)

Clinical features such as urinary issues, hematuria, and bone pain should be reviewed and summarized from case and reference texts. (20 minutes)

Special investigations including PSA, DRE, ultrasound, and biopsy should be identified and justified based on the case. (25 minutes)

Preventive measures like screening and lifestyle changes should be explored using mobile tools and discussed. (20 minutes)

Each group should present a screening or awareness plan for early detection of prostate cancer. (15 minutes)

Faculty should summarize key points and collect feedback from learners. (5 minutes)

Experiential-Learning 32.5 : Cervical and ovarian cancer.

Total duration : 2 hours.

Case Diagnosis, Case-Based Learning, Lab Report Interpretation

A case scenario involving a woman with symptoms suggestive of cervical or ovarian cancer should be presented by the faculty to initiate case-based learning and clinical reasoning. (10 minutes)

The aetiology and risk factors such as HPV infection, early sexual activity, multiple partners, genetic predisposition, and nulliparity should be studied and discussed by PG scholars in small groups. (15 minutes)

Clinical features like abnormal vaginal bleeding, post-coital bleeding, pelvic pain, bloating, and weight loss should be identified from the case and reviewed using standard references. (15 minutes)

Screening methods such as Pap smear, HPV DNA test, and transvaginal ultrasound should be discussed. Learners should understand their relevance, application, and interpretation. (20 minutes)

Special investigations like colposcopy, cervical biopsy, CA-125, and imaging (USG, CT, MRI) should be interpreted. Lab reports should be analyzed in groups and correlated with the clinical case. (20 minutes)

Preventive strategies including HPV vaccination, screening protocols, and lifestyle modifications should be explored. Learners should review current guidelines and summarize key measures. (15 minutes)

Each group should design a basic community awareness or hospital-based screening plan targeting women of different age groups and risk categories. This plan should be briefly presented. (15 minutes)

A final wrap-up session should be conducted by the faculty to integrate key learning points, clarify doubts, and collect feedback from the scholars. (10 minutes)

Experiential-Learning 32.6 : Cancer management includes chemo, surgical, and radiation therapy.

Total duration : 2 hours.

Library Session, Team Project Work

A clinical scenario of a patient with a newly diagnosed solid tumor should be presented by the faculty to initiate discussion on treatment planning and to set the context for understanding cancer management. (10 minutes)

PG scholars should review the basic principles, indications, and mechanisms of chemotherapy, surgery, and radiation therapy using standard reference materials during a guided library session. (20 minutes)

Each group will have to choose one modality—chemotherapy, surgery, or radiation—and prepare a summary of its clinical indications, advantages, limitations, and common side effects. These should be discussed and compared among groups. (20 minutes)

Case-based roleplay or mock tumor board discussion should be conducted where PG scholars simulate a multidisciplinary team deciding the appropriate treatment strategy based on tumor type, staging, and patient factors. (25 minutes)

Treatment response assessment methods and follow-up protocols for each modality should be identified and explained by the learners in relation to different types of cancer. (15 minutes)

Each group will have to design a team-based project work, such as a case audit or mini-review of recent advances in one form of cancer treatment, to be implemented over the next few weeks. (20 minutes)

A final session should be conducted by the faculty to summarize the key aspects of integrated cancer management, clarify doubts, and collect feedback from learners. (10 minutes)

Experiential-Learning 32.7 : National programs for cancer prevention.

Total duration : 2 hours.

Field Visit

The faculty should begin the session by briefly introducing the national programs for cancer prevention, emphasizing their goals and importance in public health. (5 minutes)

Students should be divided into teams and instructed to prepare educational flux materials such as posters and pamphlets that effectively communicate key messages about cancer prevention for display in the outpatient department (OPD). (30 minutes)

The prepared materials should then be displayed in the OPD to create awareness among patients and visitors. This display activity has to be coordinated and supervised by the student teams. (20 minutes)

Following the display, students should conduct a team project to organize and implement a cancer prevention awareness program for patients and caregivers, incorporating interactive discussions and educational sessions based on the national guidelines. (45 minutes)

Faculty should facilitate a debriefing session where students reflect on their experiences, challenges faced, and lessons learned during the awareness program. This should also include clarifications and reinforcement of key concepts. (10 minutes)

Students should be instructed to compile their activities, observations, and reflections into a detailed report, which should be submitted to the concerned faculty for evaluation. (10 minutes)

Experiential-Learning 32.8 : Aging in geriatrics and objectives of geriatric care.

Total duration : 2 hours.

Co Learning, Discussions, Library Session, Mobile Learning

The faculty should begin the session by briefly introducing the concepts of ageing in geriatrics and the objectives of geriatric care, highlighting their importance in improving elderly patients' quality of life. (5 minutes)

Students should be divided into groups and instructed to engage in group discussions focusing on the physiological, psychological, and social aspects of ageing, as well as the key objectives of geriatric care. (40 minutes)

Each group should be encouraged to utilize textbooks, journals, mobile resources, and online materials during their discussions to gather comprehensive and up-to-date information. (20 minutes)

After the group discussions, students should present their key findings and insights to the entire class to promote shared learning and to clarify any misconceptions. (20 minutes)

A faculty-led discussion should follow to synthesize the presentations, emphasize critical learning points, and answer students' questions. (15 minutes)

Students should be assigned a brief independent library or online session to explore recent research or guidelines related to ageing and geriatric care. (10 minutes)

At the end of the activity, students should compile their discussion outcomes and reflections into a detailed report to be submitted to the concerned faculty for evaluation and feedback. (10 minutes)

Experiential-Learning 32.9 : 5M's of geriatric care.

Total duration : 2 hours.

The faculty should begin the session by briefly introducing the 5Ms of geriatric care — mind, mobility, medications, multi-complexity, and what matters most — highlighting their significance in comprehensive elderly care. (5 minutes)

Students should be divided into five groups, each assigned one of the 5Ms to explore in depth through group discussions, using textbooks, journals, and mobile learning resources to gather relevant information. (40 minutes)

Each group should focus on analyzing key aspects of their assigned “M,” including challenges and management strategies relevant to geriatric patients. (20 minutes)

After the group discussions, students should come together to present their findings to the class, facilitating peer learning and clarification of complex concepts. (20 minutes)

A faculty-led discussion should be conducted to integrate the group presentations, emphasize critical points, and address any questions raised by students. (15 minutes)

Students should be instructed to conduct a brief library or online session independently to supplement their understanding and update their knowledge with recent research or guidelines. (10 minutes)

At the end of the activity, students should compile their group discussions and individual reflections into a comprehensive report, which should be submitted to the concerned faculty for evaluation. (10 minutes)

Experiential-Learning 32.10 : Special care for coordination and sensory system management in geriatric people.

Total duration : 2 hours.

Field Visit, Project-Based Learning, Team Project Work

The faculty should begin the session by briefly introducing the objectives of special care for coordination and sensory system management in geriatric people, emphasizing the importance of teamwork and the use of a well-defined proforma for patient assessment. (5 minutes)

Students should be divided into teams and instructed on how to use the proforma effectively to assess coordination and sensory functions in elderly patients. (15 minutes)

A field visit should be conducted where teams have to interact with geriatric patients, assess their coordination and sensory system status, and record findings accurately using the proforma. (60 minutes)

After the field visit, teams should participate in group discussions to analyze their collected data, identify special care needs, and develop management plans based on their observations. (20 minutes)

Faculty should facilitate a session to review the key findings, clarify doubts, and connect the practical observations with current geriatric care guidelines. (10 minutes)

Students should be required to compile their team findings and reflections into a comprehensive report to be submitted to the concerned faculty for evaluation. (10 minutes)

Experiential-Learning 32.11 : Sleep management in Geriatric patients.

Total duration : 2 hours.

Field Visit

The faculty should begin the session by briefly introducing the concept of sleep management in geriatric patients, highlighting the relevance of Siddha literature in understanding sleep patterns and disorders. (5 minutes)

Students should be prepared and instructed for a field visit to observe sleep management practices among elderly patients, with an emphasis on identifying traditional Siddha approaches and lifestyle factors affecting sleep. (15 minutes)

The field visit should be conducted, during which students are expected to interact with geriatric patients or caregivers, document observations, and gather information related to sleep habits and management techniques. (60 minutes)

After the visit, students should participate in group discussions to analyze the data collected and relate their observations to Siddha principles of sleep management. (20 minutes)

Faculty should facilitate a summary discussion to clarify doubts, connect practical findings to Siddha theory, and emphasize key points about sleep management in the elderly. (10 minutes)

Students should be instructed to compile their observations, analyses, and reflections into a comprehensive report to be submitted to the concerned faculty for evaluation and feedback. (10 minutes)

Experiential-Learning 32.12 : Comorbidities in geriatric patients.

Total duration : 2 hours.

Co Learning, Discussions, Library Session, Mobile Learning, Team-Based Learning

The faculty should begin the session by briefly introducing the concept of co-morbidities in geriatric patients, highlighting the importance of understanding their impact on treatment and quality of life. (5 minutes)

Students should be divided into small groups and instructed to discuss common co-morbidities seen in elderly patients, using textbooks, research articles, and mobile resources to collect relevant information. (40 minutes)

Each group should focus on identifying challenges in managing these co-morbidities, including potential drug interactions and complications, to be discussed thoroughly among the members. (20 minutes)

The groups should then analyze appropriate management strategies and interventions for these co-morbidities, considering patient-centred care and multidisciplinary approaches. (20 minutes)

Faculty should facilitate a discussion session where students present their group findings, and clarifications are provided to deepen their understanding of the topic. (15 minutes)

Students should be assigned to conduct a brief library or online literature search independently to supplement their knowledge of recent guidelines or protocols for managing geriatric co-morbidities. (15 minutes)

At the end of the activity, students should compile their discussion points and insights into a comprehensive report, which should be submitted to the concerned faculty for evaluation and feedback. (5 minutes)

Experiential-Learning 32.13 : General oral hygiene in Geriatric cases.

Total duration : 2 hours

Demonstration, Presentations, Team Project Work

The students should be given a brief orientation on the importance of oral hygiene in geriatric patients, including age-related oral issues such as dry mouth, gum recession, tooth loss, and denture care. (15 minutes)

Students should be divided into teams, and each team should be assigned to develop key messages related to general oral hygiene practices specifically tailored for elderly patients. (20 minutes)

Teams should begin designing visually appealing posters incorporating these messages, using images, short captions, and simple language to ensure clarity for the geriatric audience. (30 minutes)

The completed posters should be displayed in a designated area. Each team should explain their design and content to the group and faculty, focusing on the rationale behind their approach. (20 minutes)

A demonstration session should be conducted where students explain practical oral hygiene techniques suitable for elderly patients, such as brushing methods, denture cleaning, and use of mouth rinses. (20 minutes)

Feedback should be provided by peers and faculty to evaluate the clarity, educational value, and appropriateness of the content and demonstration. Necessary improvements should be noted. (10 minutes)

Finally, students should prepare and submit a report summarizing their teamwork, poster content, demonstration experience, and learning outcomes to the concerned faculty. (5 minutes)

Experiential-Learning 32.14 : Diet and medical advice for Geriatric patients.

Total duration : 2 hours

Edutainment

Students should be introduced to the nutritional and medical care needs specific to geriatric patients by the faculty. The physiological changes associated with ageing and their influence on dietary requirements should be discussed. (15 minutes)

Groups should be formed and each team should be instructed to identify common geriatric health conditions that require dietary and medical modifications. These findings should be noted for inclusion in IEC materials. (20 minutes)

Students should begin preparing IEC (Information, Education, and Communication) materials using suitable visual and textual formats such as charts, pamphlets, or digital posters, ensuring the content is elderly-friendly. (30 minutes)

The IEC materials should be reviewed for content accuracy, readability, and relevance under faculty guidance. Any necessary corrections or improvements should be incorporated by the students. (15 minutes)

Students should then simulate the dissemination of the prepared IEC materials through role-play or mock demonstrations to understand effective health communication techniques in geriatric care. (20 minutes)

Each group should present their materials to the class, highlighting key educational messages and strategies used for engaging elderly patients. Constructive peer and faculty feedback should be provided. (15 minutes)

Students should prepare and submit a report summarizing their approach, content, and reflection on the activity to the concerned faculty. (5 minutes)

Modular Assessment**Assessment method****Hour**

Conduct a structured modular assessment. Assessment will be for 50 marks. Keep a structured marking pattern. Use different assessment methods in each module for the semester. Keep a record of the structured pattern used for assessment. Calculate the modular grade point as per the table 6C.

4

Long answer questions of 1 question (10 Marks)

Short answer questions of 2 questions (10 Marks)

Evaluation of protocol and proforma (20 Marks)

Verify the protocol and proforma on “Early detection and management of general health problem in geriatric patients with standard questionnaire”

Practical performance on “Breast cancer screening methods” (10 Marks)

or

Any practical in converted form can be taken for assessment (25 marks)

and

Any of the experiential as portfolio/ reflections /presentations can be taken as an assessment (25 marks)

Table 4 : Practical Training Activity

(*Refer table 3 of similar activity number)		
Practical No*	Practical name	Hours
1.1	Clinical and Theoretical Correlation of Vali kutram in a patient.	6
1.2	Clinical Application of Envagai Thervu in Siddha Diagnosis	6
1.3	Practical Training on Vamanam, Virechanam, and Viyarvai for Vali Noigal	8
2.1	Interpreting Siddha Diagnosis using Imaging and other tests.	4
2.2	Mental Status Examination (MSE) to differentiate Psychosomatic Illness from Organic Disorders	4
2.3	Differential diagnosis of Headache.	3
2.4	Identification of severity, co morbidities of Vali Noigal of Head.	3
2.5	Differentiation of Pain types based on Yugi's Perspective	2
2.6	Pain assessment in Soolai Noi using Standardized Tools	2
2.7	Presentation on Mayakka Noi	2
3.1	Integrated Clinical Assessment of Central Nervous System Disorders through Siddha and Modern Approaches	4
3.2	Case sheet for Vali Noigal pertaining to Central Nervous system.	4

3.3	Interpreting neuro imaging studies (CT, EEG, MRI)	4
3.4	Neurological emergencies.	4
3.5	Evaluation and Emergency Management of Epilepsy	3
3.6	Clinical examination in Valippu Noi	3
3.7	Differential diagnosis of Vali Noigal of Peripheral Nervous system.	4
3.8	Diagnostic criteria for Vali Noigal pertaining to Peripheral Nervous system.	2
3.9	Nerve conduction study	2
4.1	Comparing and contrasting the different types of Karna soolai	2
4.2	Clinical examination of Ear Diseases based on siddha and contemporary system of medicine..	2
4.3	Comparative Diagnosis of Nasal Vali Noigal	2
4.4	Algorithm and treatment protocol for Vali Noigal of throat origin	2
4.5	Demonstrate and Interpret Mozhi thervu in throat diseases.	2
5.1	Developing a disease specific therapeutic protocol for Vali Noigal pertaining to vertebral column	4
5.2	Revisiting key external therapies for vertebral column diseases	4
5.3	Key external therapies for Limb Joint disorders in Inpatients	4
5.4	Integrating Siddha and Modern Diagnostics in Arthritis Evaluation	4
5.5	Interpreting the Clinical features based on the deranged Vali humour	2
5.6	Special Therapeutic Approaches for Keelvayu	2
6.1	Clinical presentation of Renal system	4
6.2	Clinical examination of Male reproductive system	3

6.3	Case report on male infertility	3
6.4	Examination of female Uro-genital system	3
6.5	Clinical discussion on female infertility	3
6.6	Special features and managements of Thol putru	2
6.7	Clinical examination of Skin using Siddha and modern tools	2
7.1	Interpretating Siddha and modern diagnostic procedures of gastrointestinal system.	4
7.2	Workshop organization for Gunmam Mantham Uragarivatham Utharavatham	4
7.3	Differentiating the intestinal diseases.	6
7.4	Interpreting Laboratory tests in Anorectal diseases	3
7.5	Interpretation of Anorectal diseases	3
8.1	Genetics and Molecular biology of Cancers.	4
8.2	Correlation of clinical findings and diagnostic techniques [Both Siddha and Modern]	4
8.3	Application of Siddhar Kayakalpam in Putru Noi	6
8.4	Screening and Counseling Session.	6
9.1	Properties and Functioning of Azhal	4
9.2	Examination of Azhal and its types	6
9.3	Examination of Iyam and its types.	4
9.4	Examination of Iya diseases	6
10.1	Clinical examination of Kuruthi Azhal (Systemic hypertension and Bleeding disorders)	4
10.2	Clinical examination of Peenisam	2

10.3	Clinical examination of Kural kammal	2
10.4	Clinical Examination of Erumal	4
10.5	Clinical examination of Eraippu Noi	2
10.6	Clinical examination of Elaippu	4
10.7	Clinical examination of Ulaimanthai	2
11.1	Demonstrate the siddha clinical examination for the 42 types of Azhal noigal.	8
11.2	Clinical examination of Veluppu	4
11.3	Clinical examination of Manjal Noi	5
11.4	Clinical examination of Peruvayiru	5
11.5	Clinical examination of Maneeral Noi and Kalleeral Noi	5
11.6	Clinical examination of Kudiveri Noi	3
12.1	Clinical examination of Vikkal	2
12.2	Clinical features of Sobai.	2
12.3	Clinical features of Hypo and Hyper Thyroidism.	4
12.4	Clinical examination of Obesity and Adrenal disease.	2
13.1	Newly emerging Viral infections. (Chickungunya, Dengue, Swine Flu, Monkey pox and Covid-19)	4
13.2	Clinical examination of a case of Suram	4
13.3	Examination of Ammai Noi	2
13.4	Clinical examination of Kalladaippu and Neeradaippu	4
13.5	Examination of Vellai noi	2

13.6	Examination of Venneer and Sottu Neer	2
13.7	Examination of Neerchurukku	2
14.1	Examination of Azhal and Iya Meganeer.	2
14.2	Examination of Thelineer.	2
14.3	Examination of Neerizhivu	2
14.4	Examination of MegaNeerkattigal	2
14.5	Examination of Unconscious patient	2
14.6	Examination of a case of Respiratory emergency	2
14.7	Performing CPR	2
14.8	Examination of a patient with Valippu	2
14.9	Examination of a patient with Lower gastero intestinal bleeding	2
14.10	Manage fracture or dislocation using siddha procedures	2
15.1	Examination of Suvai inmai.	2
15.2	Examination of Seiyamai.	2
15.3	Examination of Neervetkai.	2
15.4	Examination of Vanthi.	4
15.5	Examination of Ninakalichal.	4
15.6	Examination of Perunkalichal.	4
15.7	Examination of Kaduppukalichal.	2
16.1	Demonstration of Siddha clinical examination of Erumal Iyanoi, Kasa Iyanoi, Swasam Iyanoi, Theebanam Iyanoi, Mantham Iyanoi, Vali Iyanoi, Azhal Iyanoi,	6

16.2	Demonstration of Siddha clinical examination of Mukkoottu Iyanoi, Sugasanni Iyanoi, Sura Iyanoi, Athisaara Iyanoi. Neerkovai Iyanoi, Anal Iyanoi, Bootham Iyanoi,	6
16.3	Demonstration of Siddha clinical examination of Muyalakan Iyanoi, Veri Iyanoi, Vigaaram Iyanoi, Suronitham Iyanoi, Viranam Iyanoi, Thurkantham Iyanoi, Nithiyam Iyanoi.	6
16.4	Siddha Clinical Demonstration and Diagnostic Differentiation of Oozhi Noi	2
17.1	Demonstrate medicines related to Suvai, Iympootham, Mukkutram.	6
17.2	Demonstrate the preparations of medicine according to patient constituents and recitation of Maruthuvapaadalgal in Thirumanthiram	6
17.3	Construct the medicine according to Yugi concepts	8
18.1	Identify medicines based on taste for imbalanced humors.	6
18.2	Design medicines according to Iympootha theory.	6
18.3	Identify the deranged Iympootham, Mukkutram and Aru suvaigal.	8
19.1	Prepare list of medicines as said by Theraiyar, Agathiyar, Bogar.	6
19.2	Review research articles related to status, stability of 32 internal medicines.	6
19.3	Traditional preparation with the combination of herbs, polyherbal and herbo-mineral	8
20.1	Role of 7 Udal thathukkal.	6
20.2	Migu, Kuraigunam of Saaram, Senneer and Oon.	6
20.3	Identify the Migu, kuraigunam of Kozhuppu, Enbu, Moolai and Sukkilam/ Suronitham.	8
21.1	Higher order medicines according to Iympootha theory in Siddha Maruthuvam.	6
21.2	Higher order medicines for Madhumegam and Vippurudhi.	6
21.3	The conditions cured by preparations containing Serankottai.	8
22.1	Routes of drug administration.	6

22.2	Adverse Drug Reaction.	6
22.3	Chrono pharmacology	8
23.1	Mechanism of drugs in Nervous system	6
23.2	Mechanism of drugs acting on Renal system and GIT	6
23.3	Practical session on CVS and RS	8
24.1	Limitations of animal tests	10
24.2	Funding agencies	10
25.1	Case study in a patient coming with an emergency.	1
25.2	Case study in patient coming with burns.	1
25.3	Case study to define causes of sudden cardiac arrest.	1
25.4	Perform the procedures of defibrillator usage.	1
25.5	Evaluate the different types of chest pain.	1
25.6	Clinch the diagnosis in a patient with cardiac emergency.	1
25.7	Clinch the diagnosis in a patient with respiratory emergency.	1
25.8	Diagnosis in a patient with abdominal emergency.	1
25.9	Diagnosis in a patient with neurological emergency.	1
25.10	Observe the root cause of poisoning for further care.	1
25.11	Project on the functional anatomy and physiology of respiratory system.	1
25.12	Role play on the control of breathing to improve lung functions	1
25.13	Pathogenesis of asthma.	1

25.14	Abnormalities of Spirometry in asthma patients.	1
25.15	Pathogenesis of COPD.	1
25.16	Case presentation on COPD.	1
25.17	Pathogenesis of pleural effusion.	1
25.18	Clinical diagnosis of pneumothorax.	1
25.19	Etiopathogenesis on pyothorax, hydrothorax.	1
25.20	Pleural effusion with light's criteria.	1
26.1	History taking in Cardio vascular disorders.	1
26.2	General and systemic examination in Cardio vascular diseases	1
26.3	Different types of chest pain	2
26.4	The basic murmur and read ECG changes in congenital heart diseases.	1
26.5	Case study in tetralogy of Fallot.	1
26.6	The types of Heart failure and clinical manifestations	2
26.7	The relevant investigations to arrive the diagnosis in a patient with heart failure.	2
26.8	Clinical features of the cardiac valvular regurgitation and stenosis .	2
26.9	Clinical manifestations of arrhythmia.	2
26.10	Basic murmur and ECG changes in cardiac diseases.	2
26.11	Approach to Hypertensive emergencies	1
26.12	Lifestyle modification in Hypertension.	2
26.13	Procedure to measuring the blood pressure.	1

27.1	General neurological clinical examination in a patient presenting with neurological symptoms.	1
27.2	The lesion based on upper motor neuron versus lower motor neuron.	1
27.3	Diagnostic tests based on the specific diagnostic criteria, neurological factors and radiological findings.	2
27.4	The basic CSF fluid analysis findings.	2
27.5	The causes of epilepsy.	1
27.6	The types of epilepsy based on clinical presentation.	1
27.7	Case presentation on Epilepsy.	2
27.8	Basic EEG findings and emergency management of epilepsy.	1
27.9	The diagnosis regarding anatomical position, nature and cause of the lesion based on clinical presentation and findings in CNS disorders.	2
27.10	Ischemic,hemorrhagic and embolic stroke differentiation based on clinical presentation.	1
27.11	Case presentation on Transient Ischemic Attack (TIA)	2
27.12	Case presentation on Parkinson's disease in bedside/OPD.	2
27.13	Clinical presentation of the Duchenne type, Becker type and Gowers types of Muscular dystrophies	2
28.1	Minor project work on the functional anatomy and physiology of blood cells.	1
28.2	Clinical examination in blood disease.	1
28.3	Various types of anemias.	2
28.4	Long case presentations in bed side clinical teaching with documentation of previous anemia case sheets.	1
28.5	Iron deficiency anemia, megaloblastic anemia, sickle cell anaemia and thalassemias.	2
28.6	Assess the nutritional status by history taking and clinical examination in pregnancy and provide medical advice	2
28.7	Case presentation in haemophilia.	1

28.8	Nutritional status assessment.	1
28.9	Case presentation in Marasmus.	1
28.10	Clinical presentation in scurvy.	1
28.11	Case presentation in Kwarshiorkar.	2
28.12	Eye signs in vitamin A deficiency.	2
28.13	Clinical presentation of pellagra.	2
28.14	Lifestyle modification in nutritional deficiency.	1
29.1	Clinical examination in a patient presenting with rheumatological symptoms.	1
29.2	Interpret diagnostic tests in RA.	1
29.3	Clinical presentation in Rheumatoid Arthritis.	2
29.4	Monitoring plans for patients with rheumatologic conditions.	1
29.5	Case presentation in ankylosing spondylitis.	2
29.6	Case presentation in osteo arthritis.	2
29.7	Case presentation in gout.	2
29.8	Case presentation in pseudogout.	2
29.9	Case presentation on hypothyroidism.	1
29.10	Case presentation on hyperthyroidism.	1
29.11	Case presentation on cushing's syndrome.	1
29.12	Hyperaldosteronism.	1
29.13	Clinical examination of the patient with diabetes mellitus.	1

29.14	Hyperglycemic hyperosmolar state in type II diabetes mellitus patients.	1
29.15	Hypoglycemia patients coming with emergency.	1
30.1	Clinical presentation in infectious diseases.	1
30.2	Vaccination, immunization in infectious disease.	1
30.3	Case presentation in enteric fever.	2
30.4	Clinical examination in dengue.	2
30.5	Fungal infectious diseases.	2
30.6	Case presentation in malaria.	1
30.7	Case presentation in filariasis.	1
30.8	Kidney and urinary tract diseases.	2
30.9	Investigations of kidney and urinary tract diseases for essential diagnosis.	2
30.10	Composition of renal stones.	1
30.11	Clinical Examination of Chronic kidney disease.	2
30.12	Causes of male and female infertility, necessary investigations, and lifestyle modifications to manage the health condition.	2
30.13	Acute chronic tubulo interstitial nephritis, glomerulonephritis..	1
31.1	Signs and symptoms of the GIT disorders.	2
31.2	Case presentation on GERD.	2
31.3	Case presentation on peptic ulcer.	2
31.4	Case presentation on duodenal ulcer.	2
31.5	Case presentation on IBS.	2

31.6	Acute and Chronic pancreatitis.	2
31.7	Physiology of Liver,Gall bladder and pancreas.	2
31.8	Liver, Gall bladder and Pancreatic complaints.	2
31.9	Clinical presentation on hepatitis.	2
31.10	Clinical presentation on cirrhosis of liver.	2
32.1	Healthy cell biology and location of the different types of cells in the body and their abnormality.	1
32.2	Etiopathogenesis and classifications of cancer.	1
32.3	The benign and malignant type of tumors.	1
32.4	Oral cancer screening.	2
32.5	Breast cancer screening.	2
32.6	Breast cancer case presentation	2
32.7	Cervical cancer screening.	2
32.8	Life style modification and diet advice in cancer patients.	2
32.9	Early detection and management of general health problems in geriatric patients.	2
32.10	General counselling and diet advice for geriatric people.	2
32.11	Nutritional and health status by history taking in Geriatric cases.	2
32.12	Clinical examination in geriatric patients.	1

Table 5 : Experiential learning Activity

(*Refer table 3 of similar activity number)		
Experiential learning No*	Experiential name	Hours
1.1	Understanding and Mapping Vali thathu in Health and Disease	4
1.2	Seasonal Influence on Vali Thathu and Siddha Therapeutic Approaches	4
1.3	Application and Interpretation of Siddha Diagnostic Tools	4
1.4	AI-Integrated Diagnostic Tool Development Based on Siddha Principles	4
1.5	Siddha Perspectives on Pathiya/Apathiya for Vali Noi	5
1.6	Literature Collection & Systematic Review on Vali Noigal remedies	5
2.1	Siddha treatment plan for preventing vascular diseases.	3
2.2	Counseling session for patients with vascular disease.	3
2.3	Field visit to rehabilitation center	4
2.4	Evidence-Based Treatment Planning for Vali Noigal of Head.	4
2.5	Headache Diagnosis and Management - Workshop.	4
2.6	Analyzing the efficacy of Vairava maathiraigal - Literature Search	3
2.7	Syncope Risk Stratification and Fall Prevention in Geriatric Care	3
2.8	Clinical Simulation Activity on Mayakkam Noi	2
3.1	Complex Neurological concept - Presentation	2
3.2	Importance of interdisciplinary collaboration in NeuroCare.	2
3.3	Case study on Pakkavatham Patient	4

3.4	Discharge plans/referral note	4
3.5	Complications and Importance of early rehabilitation of Post Stroke.	4
3.6	Application of recent advances in neurological clinical practices.	4
3.7	Awareness on Valippu Noi.	2
3.8	Presentation of Integrative treatment protocol for Valippu Noi.	2
3.9	Patient Education on Valippu management.	4
3.10	Treatment Protocol for Vali Noigal pertaining to Peripheral Nervous System	3
3.11	Evaluation of Varma, External Therapies, and Yoga in managing Vali Noigal pertaining to Peripheral Nervous System	4
3.12	Case study on Karathambavatham.	2
3.13	Meta Analysis/Review on Vali Noigal pertaining to Peripheral Nervous system	2
4.1	Treatment protocol and Pathiyam of Vali Noigal pertaining to ear	3
4.2	Brand-Daroff exercise chart preparation	3
4.3	Treatment protocol and dietary advice for Vali Noigal with nasal origin	1
4.4	External therapies for Nasal Vali Noigal - Scientific research	2
4.5	Patient simulation guidance on throat hygiene and voice conservation.	2
4.6	Project on Oral health education	2
5.1	Document a case report on Low back pain & Neck pain and design IEC material.	5
5.2	Systematic Review of Clinical Research on Vali Noigal affecting the Vertebral Column	5
5.3	Classical therapeutic approaches for Limb Vali Noigal based on aetiology	5

5.4	"Genetics, Environment & Lifestyle: their role in Arthritis and its prevention	5
5.5	SMART goals for a Healthier life with Arthritis.	6
6.1	Meganeer avathaigal - Clinical discussion	2
6.2	Constructing treatment protocol for Meganeer- Qualitative Study	3
6.3	Data collection of Siddha therapeutics for the diseases of male genital organs.	4
6.4	Screening & Education on Cancers of Male genital organs	4
6.5	Development of a mobile App on women's health	4
6.6	Preparation of Integrative approach strategy for reproductive health in Special populations.	4
6.7	Composition of rational Siddha treatment protocol for the treatment of Thol Noigal.	2
6.8	Simulation and standardization of patient encounters for Thol Noigal	3
7.1	Evidence based treatments and management strategies for Vali noi of upper abdomen origin.	4
7.2	Systematic review on Hepato protective drugs	3
7.3	Neerkuri and Neikuri for various diseases of abdominal origin	4
7.4	Siddha preventive care in Intestinal diseases	4
7.5	Case study for Vali Noigal of intestinal origin (IBS).	4
7.6	Practical training in Karanool	7
8.1	Thegi prone for developing Putru Noi	5
8.2	Palliative care discussions in Cancer.	5
8.3	Learning the integrated approach and vaccination in Putru Noi patient.	8
8.4	Construction of Integrated Care Centre for cancer patient.	8

9.1	Influence of Azhal on other humours.with seasonal variations	6
9.2	Impact of Azhal and its influence in 14 natural urges, 5 kosams and seasonal variations.	7
9.3	Influence of Iyam on other humours with seasonal variations	6
9.4	Impact of Iyam and its influence in 14 natural urges, 5 kosams and seasonal variations.	7
10.1	Assessment of Kuruthi Azhal	4
10.2	Assessment of Peenism	3
10.3	Assessment of Kural kammal	2
10.4	Assessment of Erumal	6
10.5	Assessment of Eraippu Noi	3
10.6	Assessment of Elaippu Noi	6
10.7	Assessment of Ulaimanthai	2
11.1	Design a comparative study of 42 types of Azhal noigal according to Yugimuni and other sages	8
11.2	Assessment of Veluppu	7
11.3	Assessment of Manjal Noi (Jaundice)	7
11.4	Assessment of Peruvayiru	7
11.5	Assessment of Manneeral Noi and Kalleeral Noi	8
11.6	Assessment of Kudiveri Noi	2
12.1	Assessment of Vikkal	3
12.2	Assessment of Sobai.	3

12.3	Assessment of Hypo and Hyper Thyroidism.	4
12.4	Assessment of Obesity and Adrenal disease	3
13.1	Assessment of Newly emerging Viral infections. (Chickunguya, Dengue, Swine Flu, Monkey pox and Covid-19)	5
13.2	Assessment of 64 thypes of Suram	5
13.3	Assessment of Ammai Noi (Certain specific Viral infectious diseases)	3
13.4	Assessment of Kalladaippu and Neeraippu	4
13.5	Assessment of Vellai Noi	3
13.6	Assessment of Venneer, Sottuneer	3
13.7	Integrated Siddha-Based Clinical Protocol Development for Neerchurukku with Diagnostic, Therapeutic, Prophylactic and Research Perspectives	3
14.1	Assessment of Azhal and Iya Meganeer.	2
14.2	Assessment of Thelineer	2
14.3	Assessment of Neerizhivu	2
14.4	Assessment of Mega Neerkattigal	2
14.5	Assessment of Unconscious patient	2
14.6	Assessment of a case of Respiratory emergency	4
14.7	Performing CPR	4
14.8	Assessment of a patient with Valippu	2
14.9	Assessment the patient with lower gastro intestinal bleeding	2
14.10	Manage fracture or dislocation by placing splints or bandages	4

15.1	Assessment of Suvai inmai.	3
15.2	Assessment of Seriyamai.	3
15.3	Assessment of Neervetkai.	3
15.4	Assessment of Vanthi.	4
15.5	Assessment of Ninakalichal.	5
15.6	Assessment of Perunkalichal.	5
15.7	Assessment of Kaduppukalichal.	3
16.1	Clinical protocol development and classification of Erumal Iyanoi, Kasa Iyanoi, Swasam Iyanoi, Theebanam Iyanoi, Mantham Iyanoi, Vali Iyanoi, Azhal Iyanoi.	8
16.2	Clinical protocol development and classification of Mukkoottu Iyanoi, Sugasanni Iyanoi, Sura Iyanoi, Athisaara Iyanoi, Neerkovai Iyanoi, Anal Iyanoi, Bootham Iyanoi.	8
16.3	Clinical protocol development and classification of Muyalakan Iyanoi, Veri Iyanoi, Vigaaram Iyanoi, Suronitham Iyanoi, Viranam Iyanoi, Thurkantham Iyanoi, Nithiyam Iyanoi.	8
16.4	Clinical Management and Research Framework for Oozhi Noi	2
17.1	Application of medicines based on Suvai and Veeriyam.	8
17.2	Single herbal preparation and polyherbal preparation and incorporate the Maruthuvapaadal in Thirumanthiram.	8
17.3	Yugi and other siddhar concepts in siddha therapeutics	10
18.1	Medicines based on their taste	8
18.2	Migu, kuraigunam of Iympootham and application of medicine.	8
18.3	Mukkutra nilai assesment	10
19.1	Medicines according to Mukkutranilai	8

19.2	Administration modes of internal medicine	8
19.3	Perbal, polyherbal and herbo-mineral preparations - Literature review	10
20.1	Udal thathukkal	8
20.2	Saaram, Senneer, and Oon	8
20.3	Biotransformation of siddha medicines.	10
21.1	Iympootha theory in higher order medicines.	8
21.2	Traditional knowledge of various Siddha vaidhiyargal	8
21.3	Serankottai containing medicines	10
22.1	Dosage form of drugs.	8
22.2	Drug action.	8
22.3	Pharmacovigilance and drug regulations.	10
23.1	Drugs acting on Nervous system	8
23.2	Drugs acts on Renal system and GIT	8
23.3	Drugs acts on CVS and RS	10
24.1	General screening	10
24.2	In-vitro and In-silico studies	10
24.3	In-vitro and In-silico studies	6
25.1	Evaluation in a patient coming with emergency.	1
25.2	Communicating the treatment options and prognosis to the patients attenders in an emergency.	1

25.3	Patient coming with trauma.	2
25.4	CPR in adults.	2
25.5	Demonstrate various ECG reports and interpret the diagnosis in casualty postings.	2
25.6	The diagnosis for Chest X Ray in emergency room.	1
25.7	Improve the skills in reading abdominal Xray.	1
25.8	Approach the patient coming with neurological emergency.	1
25.9	Reviewing literature and publications on asthma.	2
25.10	Initial approach to the stabilization of the patient who presents with poisoning.	1
25.11	Characterise the local poisonous snakes,their bites.	1
25.12	Siddha treatment plan for poisoning and poisonous bites on emergency management -	2
25.13	Identify the cases with relevant diagnosis in in a patient with respiratory disease.	1
25.14	History taking in a patient presenting with respiratory complaints.	1
25.15	Clinical examination in a patient with respiratory disease.	1
25.16	Investigations associated with respiratory diseases	1
25.17	Clinical presentations in asthma.	1
25.18	Asthma preventive action plan for a patient coming with asthma.	1
25.19	Counselling for a patient with severe asthma.	1
25.20	Siddha treatment plan based on the severity of asthma.	1
25.21	To compare the clinical findings of cystic fibrosis, bronchiectasis and lung abscess.	1
26.1	Read a 12 lead ECG	2

26.2	Procedure for defibrillator usage	2
26.3	Systemic examination in bed side clinical teaching.	2
26.4	Patient with cardiovascular disorders to diagnose and further care	1
26.5	Incidence and relative frequency of congenital malformations.	1
26.6	The aetiology of congenital heart diseases	1
26.7	Overview of persistent ductus arteriosus and coarctation of aorta	1
26.8	Valvular heart diseases and heart failure	1
26.9	CPR - Cardio pulmonary resuscitation	2
26.10	case presentation in Heart failure	1
26.11	The aetiology and types of Valvular Heart diseases	2
26.12	Guest lecture on classification of cardiac dysrhythmias	2
26.13	Investigations for the patient with cardiac emergency	2
26.14	Life style interventions to manage Hypertension	1
26.15	Complications and relevant investigations for Hypertension	1
26.16	Systemwise complications in patient with Hypertension.	2
26.17	Newly diagnosed Hypertension prevention	2
27.1	Functional anatomy and physiology of brain and cranial nerves.	6
27.2	The causes, pathogenesis, clinical features, complications and investigations of encephalitis.	1
27.3	The symptoms and premonitory symptoms of various types of epilepsy.	1

27.4	Read the appropriate diagnostic investigations for cerebrovascular accident like CT and MRI.	3
27.5	Case presentation on ischemic,hemorrhagic and embolic stroke.	4
27.6	Complications, prevention and risk management in CVA.	3
27.7	The symptoms and classification (Cortical, Subcortical, Pseudodementia) and management of dementia.	1
27.8	The aetiology, pathophysiology, clinical presentations, 4 types and complications of multiple sclerosis.	1
27.9	The classifications, progressive onset, clinical presentations, specific Investigations of muscular dystrophies.	1
27.10	Case presentation on muscular dystrophy.	2
27.11	The classifications, clinical presentations, specific Investigations of Muscular Hypertrophy	1
27.12	An overview of myasthenia gravis.	1
27.13	Interpretation on investigations for myasthenia gravis.	1
28.1	Anatomy and physiology of different RBC's.	1
28.2	White blood cell results.	1
28.3	Investigations of anemia.	1
28.4	Complications of anemia.	1
28.5	Blood transfusion in severe anemia.	1
28.6	Causes of hemolytic anemia, red cell membrane defects.	2
28.7	National program for anemia prevention.	1
28.8	The disorders of primary hemostasis, vessel wall abnormalities.	2
28.9	Coagulation disorders, von willebrand disease.	2
28.10	Nutritional deficiency clinical signs.	2

28.11	Diet and medical advice for nutritional deficiency.	1
28.12	Protein energy malnutrition disease.	2
28.13	Nutrition deficiency preventive action plan.	1
28.14	Diet contain vitamins, minerals, micro nutrients.	2
28.15	Micro nutrients requirements in pregnancy and lactation.	2
28.16	Beriberi, xerophthalmia, night blindness.	2
28.17	Nutritional requirements, diet therapy.	2
29.1	Functional anatomy and physiology of musculoskeletal system.	1
29.2	Applied anatomy at rheumatology.	1
29.3	Pathophysiology of gout and pseudogout.	2
29.4	Life style modifications in gestational diabetes.	2
29.5	American rheumatism association criteria and investigations for systemic lupus erythematosus	2
29.6	Extra articular features and investigations of rheumatoid arthritis.	2
29.7	The impact of rheumatologic conditions on quality of life.	2
29.8	Radiological findings of RA, OA, gout and pseudogout.	2
29.9	Hyperthyroidism, subclinical hyperthyroidism, grave's diseases and goiter.	1
29.10	Hypoparathyroidism, hypercalcemia, hypocalcemia, addison's disease.	1
29.11	Causes, clinical and biochemical features and investigations of Addison's disease.	2
29.12	Type 1 diabetes- genetic predisposition, environmental predisposition, metabolic disturbance and pathology.	2

29.13	Risk factors, pathology, presenting problems, diagnosis of diabetes mellitus.	1
29.14	Diabetic ketoacidosis.	1
29.15	Microvascular and macrovascular complications in diabetes mellitus.	2
29.16	Life style advice In diabetes mellitus.	2
30.1	Incubation periods of important infections.	1
30.2	Diagnostic features of infectious disease.	1
30.3	Infections during pregnancy.	1
30.4	Laboratory findings of infectious diseases.	1
30.5	Causative organism in infectious diseases.	1
30.6	Infection prevention and control.	1
30.7	Protozoal infectious diseases.	2
30.8	Helminthes infectious diseases.	2
30.9	Infection prevention and control.	2
30.10	Vaccination, immunization in infectious diseases.	2
30.11	Functional anatomy and physiology of kidney and urinary tract.	2
30.12	Kidney and urinary tract diseases with clinical correlation.	2
30.13	Case presentation on acute renal failure.	2
30.14	Prevent calcium stone formation.	2
30.15	Indications for intervention to remove stones from urinary tract.	2
30.16	Urinary tract infections.	2

31.1	The patient coming with GIT symptoms.	2
31.2	Diagnosis in a patient with GI diseases.	2
31.3	USG, CT-Abdomen, endoscopy and colonoscopy findings.	1
31.4	Difference between the peptic ulcer and duodenal ulcer.	2
31.5	Inflammatory bowel disease.	2
31.6	Ulcerative colitis.	2
31.7	CT-Abdomen, Endoscopy, Colonoscopy.	2
31.8	Clinical examination of the liver, Gall bladder and pancreas	1
31.9	Signs and symptoms of GIT disorders.	1
31.10	Investigations related to Liver,Gall bladder and pancreas.	1
31.11	Diseases of Liver, Gall bladder and pancreas.	1
31.12	Hepatitis B,hepatitis C,chronic hepatitis, hepatic carcinoma.	2
31.13	Cholelithiasis, acute and chronic cholecystitis,cholangitis,secondary biliary cirrhosis and biliary atresia.	2
31.14	Clinical presentation on cholelithiasis.	2
31.15	Acute pancreatitis,chronic pancreatitis and pancreatic cancer.	3
32.1	Various types of cancer and the various stages of the cancer.	1
32.2	Cancer screening methods, describe the tumor markers and special investigations for cancers.	1
32.3	Colorectal cancer.	2
32.4	Prostate cancer.	2

32.5	Cervical and ovarian cancer.	2
32.6	Cancer management includes chemo, surgical, and radiation therapy.	2
32.7	National programs for cancer prevention.	2
32.8	Aging in geriatrics and objectives of geriatric care.	2
32.9	5M's of geriatric care.	2
32.10	Special care for coordination and sensory system management in geriatric people.	2
32.11	Sleep management in Geriatric patients.	2
32.12	Comorbidities in geriatric patients.	2
32.13	General oral hygiene in Geriatric cases.	2
32.14	Diet and medical advice for Geriatric patients.	2

Table 6 : Assessment Summary: Assessment is subdivided in A to H points**6 A : Number of Papers and Marks Distribution**

Subject Code	Paper	Theory	Practical	Total
SIDPG-M	4	100 x 4 Papers = 400	400	800

6 B : Scheme of Assessment (Formative and Summative Assessment)**Credit frame work**

SIDPG-M consists of 32 modules totaling 64 credits, which correspond to 1920 Notional Learning Hours. Each credit comprises 30 Hours of learner engagement, distributed across teaching, practical, and experiential learning in the ratio of 1:2:3. Accordingly, one credit includes 5 hours of teaching, 10 hours of practical training, 13 hours of experiential learning, and 2 hours allocated for modular assessment, which carries 25 marks.

Formative Assessment :Module wise Assessment:will be done at the end of each module. Evaluation includes learners active participation to get Credits and Marks. Each Module may contain one or more credits.

Summative Assessment:Summative Assessment (University examination) will be carried out at the end of Semester VI.

6 C : Calculation Method for Modular Grade Points (MGP)

Module Number & Name (a)	Credits (b)	Actual No. of Notional Learning Hours (c)	Attended Number of notional Learning hours (d)	Maximu m Marks of assessmen t of modules (e)	Obtained Marks per module (f)	MGP =d* f/c*e*100
Semester No : 3						
Paper No : 1 (Principles and Practice of Siddha Maruthuvam - Vali Noigal and Putru Noi (Siddha Oncology))						
M1 General consideration of Vali Noigal on the basis of Siddha Principles	2	60		50		
M2 Vali Noigal pertaining to Heart, Vessels & Head; Psychosomatic disorder, Soolai, Sanni and Mayakkam	2	60		50		
Paper No : 2 (Principles and Practice of Siddha Maruthuvam - Azhal and Iya Noigal)						
M9 General considerations of Azhal and Iya diseases on the basis of Siddha System of Medicine	2	60		50		
M10 Kuruthi Azhal and Respiratory system diseases related to Azhal and Iyam	2	60		50		
Paper No : 3 (Siddhar Maruthuvam with Applied Pharmacotherapeutics)						

M17 Essentials of Traditional Siddha therapeutics	2	60		50		
M18 Basic concepts of Siddha therapeutics	2	60		50		
Paper No : 4 (Recent Advances in Medicine)						
M25 Emergency Medicine & Respiratory Medicine	2	60		50		
M26 Cardiology	2	60		50		
	16	480		400		
Semester No : 4						
Paper No : 1 (Principles and Practice of Siddha Maruthuvam - Vali Noigal and Putru Noi (Siddha Oncology))						
M3 Vali Noigal pertaining to Nervous system	3	90		75		
M4 Vali Noigal pertaining to Ear, Nose, Throat & Oral cavity	1	30		25		
Paper No : 2 (Principles and Practice of Siddha Maruthuvam - Azhal and Iya Noigal)						
M11 Azhal Noigal – 42 ,Haematology and Hepato biliary system diseases related to Azhal	3	90		75		
M12 Iya Noigal related to Haematology, Vikkal and Naalamilla surapi noigal (Endocrine diseases)	1	30		25		
Paper No : 3 (Siddhar Maruthuvam with Applied Pharmacotherapeutics)						
M19 Types of Internal medicines and its description	2	60		50		
M20 Biotransformation of Siddha Medicines	2	60		50		
Paper No : 4 (Recent Advances in Medicine)						
M27 Diseases of Respiratory System	2	60		50		
M28 Haematology and nutritional deficiencies	2	60		50		
	16	480		400		
Semester No : 5						
Paper No : 1 (Principles and Practice of Siddha Maruthuvam - Vali Noigal and Putru Noi (Siddha Oncology))						
M5 Vali Noigal pertaining to Bones, Joints and Connective tissues.	2	60		50		
M6 Vali Noigal pertaining to Uro-Genital system & Skin	2	60		50		

Paper No : 2 (Principles and Practice of Siddha Maruthuvam - Azhal and Iya Noigal)						
M13 Renal disorders related to Azhal , Newly emerging viral infections and infectious diseases	2	60		50		
M14 Renal disorders related to Iyam and Handling Emergency in Siddha System of Medicine	2	60		50		
Paper No : 3 (Siddhar Maruthuvam with Applied Pharmacotherapeutics)						
M21 Essentials of Peru marunthugal (Siddha Higher order Medicines and Vallathy Maruthuvam)	2	60		50		
M22 General Pharmacology	2	60		50		
Paper No : 4 (Recent Advances in Medicine)						
M29 Rheumatology and Endocrinology	2	60		50		
M30 Infectious Diseases, Nephrology and Reproductive system	2	60		50		
	16	480		400		
Semester No : 6						
Paper No : 1 (Principles and Practice of Siddha Maruthuvam - Vali Noigal and Putru Noi (Siddha Oncology))						
M7 Vali Noigal pertaining to Abdomen	2	60		50		
M8 Siddha Oncology	2	60		50		
Paper No : 2 (Principles and Practice of Siddha Maruthuvam - Azhal and Iya Noigal)						
M15 Gastro Intestinal diseases related to Azhal	2	60		50		
M16 Iya Noigal – 21 and Gastro intestinal diseases related to Iyam	2	60		50		
Paper No : 3 (Siddhar Maruthuvam with Applied Pharmacotherapeutics)						
M23 Systemic Pharmacology	2	60		50		
M24 Experimental and Clinical Pharmacology	2	60		50		
Paper No : 4 (Recent Advances in Medicine)						
M31 Gastrointestinal disorders	2	60		50		
M32 Oncology & Geriatrics	2	60		50		
	16	480		400		

$$\text{MGP} = \frac{(\text{Number of Notional learning hours attended in a module}) \times (\text{Marks obtained in the modular assessment})}{(\text{Total number of Notional learning hours in the module}) \times (\text{Maximum marks of the module})} \times 100$$

6 D : Semester Evaluation Methods for Semester Grade Point Average (SGPA)

SGPA will be calculated at the end of the semester as an average of all Module MGPs. Average of MGPs of the Semester For becoming eligible for Summative assessment of the semester, student should get minimum of 60% of SGPA

SGPA = Average of MGP of all modules of all papers = add all MGPs in the semester/ no. of modules in the semester
Evaluation Methods for Modular Assessment

Semester No : 3		
Paper No : 1 Principles and Practice of Siddha Maruthuvam - Vali Noigal and Putru Noi (Siddha Oncology)		
A S.N o	B Module number and Name	C MGP
1	M1.General consideration of Vali Noigal on the basis of Siddha Principles	C1
2	M2.Vali Noigal pertaining to Heart, Vessels & Head; Psychosomatic disorder, Soolai, Sanni and Mayakkam	C2
Paper No : 2 Principles and Practice of Siddha Maruthuvam - Azhal and Iya Noigal		
A S.N o	B Module number and Name	C MGP
3	M9.General considerations of Azhal and Iya diseases on the basis of Siddha System of Medicine	C3
4	M10.Kuruthi Azhal and Respiratory system diseases related to Azhal and Iyam	C4
Paper No : 3 Siddhar Maruthuvam with Applied Pharmacotherapeutics		
A S.N o	B Module number and Name	C MGP
5	M17.Essentials of Traditional Siddha therapeutics	C5
6	M18.Basic concepts of Siddha therapeutics	C6
Paper No : 4 Recent Advances in Medicine		
A S.N o	B Module number and Name	C MGP
7	M25.Emergency Medicine & Respiratory Medicine	C7
8	M26.Cardiology	C8
	Semester Grade point Average (SGPA)	(C1+C2+C3+C4+C5+C6+C7+C8) / Number of modules(8)
Semester No : 4		

Paper No : 1 Principles and Practice of Siddha Maruthuvam - Vali Noigal and Putru Noi (Siddha Oncology)

A S.N o	B Module number and Name	C MGP
1	M3.Vali Noigal pertaining to Nervous system	C1
2	M4.Vali Noigal pertaining to Ear, Nose, Throat & Oral cavity	C2

Paper No : 2 Principles and Practice of Siddha Maruthuvam - Azhal and Iya Noigal

A S.N o	B Module number and Name	C MGP
3	M11.Azhal Noigal – 42 ,Haematology and Hepato biliary system diseases related to Azhal	C3
4	M12.Iya Noigal related to Haematology, Vikkal and Naalamilla surapi noigal (Endocrine diseases)	C4

Paper No : 3 Siddhar Maruthuvam with Applied Pharmacotherapeutics

A S.N o	B Module number and Name	C MGP
5	M19.Types of Internal medicines and its description	C5
6	M20.Biotransformation of Siddha Medicines	C6

Paper No : 4 Recent Advances in Medicine

A S.N o	B Module number and Name	C MGP
7	M27. Diseases of Respiratory System	C7
8	M28.Haematology and nutritional deficiencies	C8
	Semester Grade point Average (SGPA)	(C1+C2+C3+C4+C5+C6+C7+C8) / Number of modules(8)

Semester No : 5**Paper No : 1 Principles and Practice of Siddha Maruthuvam - Vali Noigal and Putru Noi (Siddha Oncology)**

A S.N o	B Module number and Name	C MGP
1	M5.Vali Noigal pertaining to Bones, Joints and Connective tissues.	C1
2	M6.Vali Noigal pertaining to Uro-Genital system & Skin	C2

Paper No : 2 Principles and Practice of Siddha Maruthuvam - Azhal and Iya Noigal		
A S.N o	B Module number and Name	C MGP
3	M13.Renal disorders related to Azhal , Newly emerging viral infections and infectious diseases	C3
4	M14.Renal disorders related to Iyam and Handling Emergency in Siddha System of Medicine	C4
Paper No : 3 Siddhar Maruthuvam with Applied Pharmacotherapeutics		
A S.N o	B Module number and Name	C MGP
5	M21.Essentials of Peru marunthugal (Siddha Higher order Medicines and Vallathy Maruthuvam)	C5
6	M22.General Pharmacology	C6
Paper No : 4 Recent Advances in Medicine		
A S.N o	B Module number and Name	C MGP
7	M29.Rheumatology and Endocrinology	C7
8	M30.Infectious Diseases, Nephrology and Reproductive system	C8
	Semester Grade point Average (SGPA)	$(C1+C2+C3+C4+C5+C6+C7+C8) / \text{Number of modules}(8)$
Semester No : 6		
Paper No : 1 Principles and Practice of Siddha Maruthuvam - Vali Noigal and Putru Noi (Siddha Oncology)		
A S.N o	B Module number and Name	C MGP
1	M7.Vali Noigal pertaining to Abdomen	C1
2	M8.Siddha Oncology	C2
Paper No : 2 Principles and Practice of Siddha Maruthuvam - Azhal and Iya Noigal		
A S.N o	B Module number and Name	C MGP
3	M15.Gastro Intestinal diseases related to Azhal	C3
4	M16.Iya Noigal – 21 and Gastro intestinal diseases related to Iyam	C4

Paper No : 3 Siddhar Maruthuvam with Applied Pharmacotherapeutics

A S.N o	B Module number and Name	C MGP
5	M23.Systemic Pharmacology	C5
6	M24.Experimental and Clinical Pharmacology	C6

Paper No : 4 Recent Advances in Medicine

A S.N o	B Module number and Name	C MGP
7	M31.Gastrointestinal disorders	C7
8	M32.Oncology & Geriatrics	C8
	Semester Grade point Average (SGPA)	$(C1+C2+C3+C4+C5+C6+C7+C8) / \text{Number of modules}(8)$

S. No	Evaluation Methods
1.	Method explained in the Assessment of the module or similar to the objectives of the module.

6 E : Question Paper Pattern**MD/MS SIDDHA Examination****SIDPG-M****Sem VI****Time: 3 Hours ,Maximum Marks: 100****INSTRUCTIONS: All questions compulsory**

		Number of Questions	Marks per Question	Total Marks
Q 1	Application-based Questions (ABQ)	1	20	20
Q 2	Short answer questions (SAQ)	8	5	40
Q 3	Analytical based structured Long answer question (LAQ)	4	10	40
				100

6 F : Distribution for summative assessment (University examination)

S.No	List of Module/Unit	ABQ	SAQ	LAQ
Paper No : 1 (Principles and Practice of Siddha Maruthuvam - Vali Noigal and Putru Noi (Siddha Oncology))				
(M-1)General consideration of Vali Noigal on the basis of Siddha Principles (Marks: Range 5-20)				
1	(U-1) Basic functioning and pathological changes of Vali humour.	No	Yes	No
2	(U-2) Common diagnostic principles of Vali Noigal.	Yes	Yes	Yes
3	(U-3) Introduction to Vali Noigal in general	Yes	Yes	Yes
(M-2)Vali Noigal pertaining to Heart, Vessels & Head; Psychosomatic disorder, Soolai, Sanni and Mayakkam (Marks: Range 5-20)				
1	(U-1) Vali Noigal pertaining to Heart & Vessels, Psychosomatic disorder	No	Yes	No
2	(U-2) Vali Noigal pertaining to Head	No	Yes	No
3	(U-3) Soolai, Sanni & Mayakkam	Yes	Yes	Yes
(M-3)Vali Noigal pertaining to Nervous system (Marks: Range 5-20)				
1	(U-1) Vali Noigal pertaining to Central Nervous System.	Yes	Yes	Yes
2	(U-2) Valippu Noigal	No	Yes	Yes
3	(U-3) Vali Noigal pertaining to Peripheral Nervous System.	No	Yes	Yes
(M-4)Vali Noigal pertaining to Ear, Nose, Throat & Oral cavity (Marks: Range 5-10)				
1	(U-1) Vali Noigal pertaining to Ear	No	Yes	No
2	(U-2) Vali Noigal pertaining to Nose	No	Yes	No
3	(U-3) Vali Noigal pertaining to Throat & Oral cavity	No	Yes	No
(M-5)Vali Noigal pertaining to Bones, Joints and Connective tissues. (Marks: Range 5-20)				
1	(U-1) Arthritis pertaining to Vertebral column(spondylo arthropathies)	No	Yes	Yes
2	(U-2) Arthritis pertaining to Upper limb and Lower limb	Yes	Yes	Yes
3	(U-3) Types of Keelvayu as per Sababathi kaiyedu	Yes	Yes	Yes
(M-6)Vali Noigal pertaining to Uro-Genital system & Skin (Marks: Range 5-15)				
1	(U-1) Vali Noigal pertaining to Renal system	No	Yes	Yes
2	(U-2) Vali Noigal pertaining to Male Reproductive system.	No	Yes	No
3	(U-3) Vali Noigal pertaining to Female Reproductive system.	No	Yes	No
4	(U-4) Vali Noigal pertaining to Skin	No	Yes	Yes
(M-7)Vali Noigal pertaining to Abdomen (Marks: Range 5-20)				

1	(U-1) Vali Noigal pertaining to Upper part of abdomen.	Yes	Yes	Yes
2	(U-2) Vali Noigal pertaining to Intestine.	No	Yes	No
3	(U-3) Vali Noigal pertaining to Ano Rectal region	No	Yes	No
(M-8)Siddha Oncology (Marks: Range 5-20)				
1	(U-1) General considerations of Putru Noi and Vippruthi	No	Yes	No
2	(U-2) Siddha Pathogenesis and Diagnosis of Putru Noi.	Yes	Yes	Yes
3	(U-3) Cancer Management-Specialized approach.	Yes	Yes	Yes
4	(U-4) Therapeutic approaches for Putru Noi	Yes	Yes	Yes

S.No	List of Module/Unit	ABQ	SAQ	LAQ
Paper No : 2 (Principles and Practice of Siddha Maruthuvam - Azhal and Iya Noigal)				
(M-9)General considerations of Azhal and Iya diseases on the basis of Siddha System of Medicine (Marks: Range 5-10)				
1	(U-1) General Characteristic features of Azhal	No	Yes	No
2	(U-2) Significance of derangement of Azhal in human body	No	Yes	No
3	(U-3) General Characteristic features of Iyam	No	Yes	No
4	(U-4) Significance of derangement of Iyam in human body	No	Yes	No
(M-10)Kuruthi Azhal and Respiratory system diseases related to Azhal and Iyam (Marks: Range 5-20)				
1	(U-1) Kuruthi Azhal (Systemic hypertension & Bleeding Disorders)	Yes	Yes	Yes
2	(U-2) Peenisam (Sinusitis)	No	Yes	Yes
3	(U-3) Kuralkammal (Hoarseness of Voice)	No	Yes	Yes
4	(U-4) Erumal (Cough)	Yes	Yes	Yes
5	(U-5) Eraippu (Bronchial Asthma)	Yes	Yes	Yes
6	(U-6) Elaippu (Pulmonary and Extra-pulmonary Tuberculosis)	Yes	Yes	Yes
7	(U-7) Ulaimanthai (Acute/ Chronic Enteritis)	No	Yes	Yes
(M-11)Azhal Noigal – 42 ,Haematology and Hepato biliary system diseases related to Azhal (Marks: Range 5-20)				
1	(U-1) Types of Azhalnoigal-42 (Pitha diseases)	No	Yes	Yes
2	(U-2) Veluppu Noi (Anaemia)	Yes	Yes	Yes
3	(U-3) Manjal Noi (Jaundice)	Yes	Yes	Yes
4	(U-4) Peruvayiru (Ascites)	Yes	Yes	Yes
5	(U-5) Manneeral noi and Kalleeral noi (Spleen and Liver disorders)	No	Yes	Yes
6	(U-6) Kudiveri Noi (Alcoholism)	No	Yes	Yes
(M-12)Iya Noigal related to Haematology, Vikkal and Naalamilla surapi noigal (Endocrine diseases) (Marks: Range 5-20)				
1	(U-1) Vikkal (Hiccup)	No	Yes	Yes
2	(U-2) Sobai (Dropsy)	Yes	Yes	Yes
3	(U-3) Kurai veethanam and athi veethana noigal (Hypothyroidism and Hyperthyroidism)	Yes	Yes	Yes

4	(U-4) Obesity and Adrenal Diseases	No	Yes	Yes
(M-13)Renal disorders related to Azhal , Newly emerging viral infections and infectious diseases (Marks: Range 5-20)				
1	(U-1) Chickungunya, Dengue, Swine flu, Covid-19 and Monkey pox	Yes	Yes	Yes
2	(U-2) Suram-64 (Fever-64)	No	Yes	Yes
3	(U-3) Ammai Noi (Exanthematous Viral infections)	No	Yes	Yes
4	(U-4) Kalladaipu and Neeradaipu (Renal calculi & Retention of Urine)	Yes	Yes	Yes
5	(U-5) Vellai noi (Urethritis/ Inflammation of Urogenital organs)	Yes	Yes	Yes
6	(U-6) Venneer and Sottu Neer (Spermatorrhoea & Incontinence of Urine)	Yes	Yes	Yes
7	(U-7) Neerchurukku (Oliguria)	No	Yes	Yes
(M-14)Renal disorders related to Iyam and Handling Emergency in Siddha System of Medicine (Marks: Range 5-20)				
1	(U-1) Azhal and Iya Meganeer	No	Yes	Yes
2	(U-2) Thelineer (Diabetes Insipidus)	No	Yes	Yes
3	(U-3) Neerizhivu (Diabetes mellitus)	Yes	Yes	Yes
4	(U-4) Meganeer Kattigal (Diabetic abscesses)	Yes	Yes	Yes
5	(U-5) Unconscious Patient (Sanni nilai)	No	Yes	Yes
6	(U-6) Respiratory Emergency (Manthara Kasam)	Yes	Yes	Yes
7	(U-7) Cardio vascular Emergency	Yes	Yes	Yes
8	(U-8) Valippu (Convulsions)	Yes	Yes	Yes
9	(U-9) Lower gastro intestinal bleeding (Eruvai kudal rathapokku)	No	Yes	Yes
10	(U-10) Fracture and Dislocation (Elumbu murivu matrum ida peyarchi)	No	Yes	Yes
(M-15)Gastro Intestinal diseases related to Azhal (Marks: Range 5-20)				
1	(U-1) Suvai inmai (Taste disorders)	No	Yes	Yes
2	(U-2) Seriyamai (Indigestion)	No	Yes	Yes
3	(U-3) Neervetkai (Polydipsia)	No	Yes	Yes
4	(U-4) Vanthi (Vomiting)	Yes	Yes	Yes
5	(U-5) Ninakalichal (Amoebic dysentery)	No	Yes	Yes

6	(U-6) Perunkalichal (Diarrhoea)	No	Yes	Yes
7	(U-7) Kaduppukalichal (Bacillary dysentery)	No	Yes	Yes
(M-16)Iya Noigal – 21 and Gastro intestinal diseases related to Iyam (Marks: Range 5-15)				
1	(U-1) Iya Noigal-I (Kapha diseases-I)	No	Yes	Yes
2	(U-2) Iya Noigal-II (Kapha diseases-II)	No	Yes	Yes
3	(U-3) Iya Noigal-III (Kapha diseases-III)	No	Yes	Yes
4	(U-4) Oozhi Noi (Cholera)	No	Yes	Yes

S.No	List of Module/Unit	ABQ	SAQ	LAQ
Paper No : 3 (Siddhar Maruthuvam with Applied Pharmacotherapeutics)				
(M-17)Essentials of Traditional Siddha therapeutics (Marks: Range 5-20)				
1	(U-1) Introduction to Traditional Siddha practices	No	Yes	Yes
2	(U-2) Components of traditional Siddha therapeutics and Maruthuvam in Thirumanthiram comparison with genomic studies	No	Yes	Yes
3	(U-3) Special features of Siddha manufacturing practices according to Yugi concept.	Yes	Yes	Yes
(M-18)Basic concepts of Siddha therapeutics (Marks: Range 5-20)				
1	(U-1) Basic principles and practices of Siddha therapeutics	Yes	Yes	Yes
2	(U-2) Iympootha theory and its description	Yes	Yes	Yes
3	(U-3) Triad of Iympootham, Mukkutram and Aru suvaigal	Yes	Yes	Yes
(M-19)Types of Internal medicines and its description (Marks: Range 5-20)				
1	(U-1) List of internal medicines as per Theraiyar, Agathiyar, Bogar	No	Yes	Yes
2	(U-2) Status, Stability and Shelf life of Internal medicines, Administration modes of internal medicine	Yes	Yes	Yes
3	(U-3) Comparative analysis of Siddha Medicines according to Anuboga vaidhiya navaneetham and Noigalukku Siddha parigaram, Agathiyar paripooranam (Herbal, Polyherbal, Herbo mineral preparations)	No	Yes	Yes
(M-20)Biotransformation of Siddha Medicines (Marks: Range 5-15)				
1	(U-1) Basic concepts of ezhu udalkattukkal (7 Physical Constituents) and its role and Biotransformation on Udalkattugal	No	Yes	Yes
2	(U-2) Saaram (Nutrient juice), Senneer (Blood) and Oon (Muscle).	No	Yes	Yes
3	(U-3) Kozhuppu (Fat and Adipose tissue), Enbu (Bone and Teeth), Moolai (Bone Marrow and Nervous tissue), Sukkilam/ Suronitham (Semen / Ovum).	No	Yes	Yes
(M-21)Essentials of Peru marunthugal (Siddha Higher order Medicines and Vallathy Maruthuvam) (Marks: Range 5-20)				
1	(U-1) List of Peru Marunthugal (Higher order medicines) as per Theraiyar, Agathiyar, Bogar	Yes	Yes	Yes
2	(U-2) Traditional concepts, Practices of Peru Marunthugal	Yes	Yes	Yes

	(Higher order medicines) and Utility of higher order medicine in debilitating illness			
3	(U-3) Vallathy maruthuvam	Yes	Yes	Yes
(M-22)General Pharmacology (Marks: Range 5-15)				
1	(U-1) General Pharmacology	No	Yes	Yes
2	(U-2) Pharmacokinetics and Pharmacodynamics	No	Yes	Yes
3	(U-3) Drug development, Pharmacovigilance, Drug Regulation and Drug and Cosmetic Act.	No	Yes	Yes
(M-23)Systemic Pharmacology (Marks: Range 5-15)				
1	(U-1) Autonomic Nervous System and Central Nervous System	No	Yes	Yes
2	(U-2) Drugs acting on kidney and Drugs acting on the intestinal tract	No	Yes	Yes
3	(U-3) Drugs acting on cardiovascular system and Drugs acting on the Respiratory System	No	Yes	Yes
(M-24)Experimental and Clinical Pharmacology (Marks: Range 5-15)				
1	(U-1) Experimental pharmacology	No	Yes	Yes
2	(U-2) Clinical pharmacology	No	Yes	Yes

S.No	List of Module/Unit	ABQ	SAQ	LAQ
Paper No : 4 (Recent Advances in Medicine)				
(M-25)Emergency Medicine & Respiratory Medicine (Marks: Range 5-20)				
1	(U-1) Basics of Emergency Care	No	Yes	Yes
2	(U-2) Systemic Emergency	No	Yes	No
3	(U-3) Toxicology and poisoning Contents:	No	Yes	Yes
4	(U-4) Essentials of respiratory system	No	Yes	Yes
5	(U-5) Diseases of respiratory system	Yes	Yes	Yes
(M-26)Cardiology (Marks: Range 5-20)				
1	(U-1) Essentials of Cardiology	No	Yes	No
2	(U-2) Congenital Heart Disease	No	Yes	Yes
3	(U-3) Acquired diseases of the heart	Yes	Yes	Yes
4	(U-4) Hypertension	No	Yes	Yes
(M-27) Diseases of Respiratory System (Marks: Range 5-20)				
1	(U-1) Essentials of Neurology	No	Yes	No
2	(U-2) Infective Disease of CNS and Epilepsy	Yes	Yes	Yes
3	(U-3) Cerebrovascular Accident	No	Yes	Yes
4	(U-4) Neurodegenerative Diseases	No	Yes	Yes
5	(U-5) Disorders of Muscle & Myasthenia Gravis	No	Yes	Yes
(M-28)Haematology and nutritional deficiencies (Marks: Range 5-20)				
1	(U-1) Essentials of Haematology	No	Yes	No
2	(U-2) Anemia	Yes	Yes	No
3	(U-3) Bleeding and Clotting Disorders	No	Yes	Yes
4	(U-4) Essentials of Diet and Nutrition	No	Yes	Yes
5	(U-5) Nutritional Deficiencies	No	Yes	Yes
(M-29)Rheumatology and Endocrinology (Marks: Range 5-20)				
1	(U-1) Essentials of Rheumatology	No	Yes	No
2	(U-2) Rheumatological Disorders	No	Yes	Yes
3	(U-3) Thyroid and Adrenal Diseases	No	Yes	Yes
4	(U-4) Diabetes Mellitus and Obesity	Yes	Yes	Yes

(M-30)Infectious Diseases, Nephrology and Reproductive system (Marks: Range 5-20)				
1	(U-1) Essentials of Infections	No	Yes	No
2	(U-2) Infectious Disease	No	Yes	Yes
3	(U-3) Essentials of Nephrology	No	Yes	Yes
4	(U-4) Renal Disorders and Reproductive Diseases	Yes	Yes	Yes
(M-31)Gastrointestinal disorders (Marks: Range 5-20)				
1	(U-1) Essentials of Gastrointestinal Disease	No	Yes	No
2	(U-2) Essentials of Liver, Gall Bladder and Pancreas	No	Yes	Yes
3	(U-3) Diseases of Liver, Gall Bladder and Pancreas	No	Yes	Yes
4	(U-4) Diseases of Liver, Gall Bladder and Pancreas	Yes	Yes	Yes
(M-32)Oncology & Geriatrics (Marks: Range 5-20)				
1	(U-1) Essentials of Oncology	No	Yes	No
2	(U-2) Organ Specific Cancer	Yes	Yes	Yes
3	(U-3) Essentials of Geriatric Care	No	Yes	Yes
4	(U-4) Common Geriatric Problems	No	Yes	Yes

6 G : Instruction for the paper setting & Blue Print for Summative assessment (University Examination)

Instructions for the paper setting.

1. University examination shall have 4 papers of 100 marks.

Each 100 marks question paper shall contain:-

- Application Based Question: 1 No (carries 20 marks)
- Short Answer Questions: 8 Nos (each question carries 05 marks)
- Long Answer Questions: 4 Nos (each question carries 10 marks)

2. Questions should be drawn based on the table 6F.

3. Marks assigned for the module in 6F should be considered as the maximum marks. No question shall be asked beyond the maximum marks.

4. Refer table 6F before setting the questions. Questions should not be framed on the particular unit if indicated “NO”.

5. There will be a single application-based question (ABQ) worth 20 marks. No other questions should be asked from the same module where the ABQ is framed.

6. Except the module on which ABQ is framed, at least one Short Answer Question should be framed from each module.

7. Long Answer Question should be analytical based structured questions assessing the higher cognitive ability.

8. Create Blueprint based on instructions 1 to 7

6 H : Distribution of Practical Exam (University Examination)

S.No	Heads	Marks
1	Distribution of Marks for Long Case Number of case: 1 Time: 1 hour 30 mins History taking (10 marks): Introduction, Complaints and Duration, History of present illness, Past history, Personal history, Family history, Menstrual history, Occupational history, vaccination history, any other relevant history General examination (15marks) General appearance includes Weight,Height, BMI ,Vitals (Temperature, blood pressure, Heart rate, Pulse rate). Clinical examination- Siddha (15 marks) Yakkai ilakkanam, Gunam, Thina, Kaalam, Impori, Impulan, Udal vanmai, Udal thathukkal, Kosangal, Uyir thathukkal, Udal thee, Dasa naadigal. Systemic examination (15 marks) : Respiratory System, Cardiovascular System, Gastrointestinal System, Neurological System, Musculoskeletal System, Urogenital system and Other systems Differential diagnosis and Diagnosis (5 marks) Treatment and management (One day medicine - 10 marks; Other medicines - 10marks) Investigations (10 marks) : Siddha Investigations- Manikadai nool Assessment , Envagai thervu, Neerkuri neikuri. Modern Investigations- (a) Blood, Urine, Stool, Sputum (b) Radiological (c) Others Dietary Advices and lifestyle modifications : (10 marks)	100
2	Distribution of marks for Short Case Number of cases: 2 Time: 30 minutes per case History taking (10 marks) Siddha clinical examination: Envagai thervu, Neerkuri & Neikuri (10 marks) Modern clinical examination (10 marks) Lab investigation (5 marks) Diagnosis (5 marks) One day medicine (5 marks) Dietary advice (5 marks)	50

3	Distribution of marks for Spotters (10x5-50 marks) (a) Identification and Brief Description of a Clinical Sign (Real case or image or video clips can be used) (3 Spotters) (b) Identification of instruments / Devices (Glucometer, Peak Flow Meter, Spirometer, Pulse Oximeter, Hemoglobinometer, Ambu Bag, Tuning Fork, Reflex Hammer, Oroscope, Ophthalmoscope) (1 Spotter) (c) Lab report interpretation (1 Spotter) (d) Common Siddha formulations (2 Spotters) (e) Neikkuri (real case or image) (1 Spotter) (f) Procedures of External therapies (eg. Leech, Karanool, Suttigai (Cautarisation), Ottradam (Fomentation), Pattikatal (Bandage dressing), Patru (Poultice), Nasiyam (Nasal application), Pugai (Fumigation), Wound cleaning and dressing. (1 Spotter) (g) Demonstration on simulated models in Emergency medicine (1 Spotter) In the examination, students will be required to write a brief description of the given spotter. A total of 10 spotters questions will be asked each carrying 5 marks. The questions will be asked from mentioned topics ensuring that at least one question is asked from each topics.	50
4	Assessing Teaching ability(25 marks)	25

5	Assessing Presentation skills (25 marks)	25
6	VIVA (4 Examiners: 25 for each Examiner) #	100
7	Log book (Activity record)	25
8	Practical / Clinical record Paper 1: 10 cases Paper 2: 10 cases Paper 3: 10 (5 cases and 5 practicals) Paper 4: 10 cases	25
Total Marks		400

#No separate marks for dissertation viva.

Reference Books/ Resources

S.No	References
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2	Uthamarayan KS. Siddha Maruthuvanga Churukkam. Chennai: The Directorate of Indian Medicine and Homoeopathy; Government of Tamilnadu; 2022. p. .841
3	Theraiyar. Theraiyar Neerkuri Vaidhiyam. Ramachandran SP, Vadapalani, Chennai; 2000
4	Yugimuni. Yugi Munivar Vaidhya Chintamani (Perunool 800). The Directorate of Indian Medicine and Homoeopathy; Government of Tamilnadu; 2022. Originally published 1976.
5	Shanmugavelu S. Noikalukku Siddha Parikaram. Part I & II. Chennai: Directorate of Indian Medicine and Homoeopathy, Government of Tamil Nadu; 1976. Tamil.
6	Kuppusamy Mudaliar C, Uthamarayan KS. Siddha Vaithya Thirattu. 1st ed. Chennai: Directorate of Indian Medicine and Homoeopathy, Government of Tamil Nadu; 2009. Tamil.
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13	Shanmugavelu M. Putrunoi Patriya Vilakkamum Siddha Araichi Marunthugalum. Coimbatore: [publisher];
14	Sriram J, Balu A, Vasanthkumar P, Mahalingam K, Suresh T, Naansiagnes, Sudarsan S, Natarajan T. Siddha Oncology. Vol. 1: A compilation of Siddha Literatures. Chennai: Central Council for Research in Siddha; 2024 Sep 29.
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Abbreviations

Domain		T L Method		Level	
CK	Cognitive/Knowledge	L	Lecture	K	Know
CC	Cognitive/Comprehension	L&PPT	Lecture with PowerPoint presentation	KH	Knows how
CAP	Cognitive/Application	L&GD	Lecture & Group Discussion	SH	Shows how
CAN	Cognitive/Analysis	L_VC	Lecture with Video clips	D	Does
CS	Cognitive/Synthesis	REC	Recitation		
CE	Cognitive/Evaluation	SY	Symposium		
PSY-SET	Psychomotor/Set	TUT	Tutorial		
PSY-GUD	Psychomotor/Guided response	DIS	Discussions		
PSY-MEC	Psychomotor/Mechanism	BS	Brainstorming		
PSY-ADT	Psychomotor Adaptation	IBL	Inquiry-Based Learning		
PSY-ORG	Psychomotor/Origination	PBL	Problem-Based Learning		
AFT-REC	Affective/ Receiving	CBL	Case-Based Learning		
AFT-RES	Affective/Responding	PrBL	Project-Based Learning		
AFT-VAL	Affective/Valuing	TBL	Team-Based Learning		
AFT-SET	Affective/Organization	TPW	Team Project Work		
AFT-CHR	Affective/ characterization	FC	Flipped Classroom		
		BL	Blended Learning		
		EDU	Edutainment		
		ML	Mobile Learning		
		ECE	Early Clinical Exposure		
		SIM	Simulation		
		RP	Role Plays		
		SDL	Self-directed learning		
		PSM	Problem-Solving Method		
		KL	Kinaesthetic Learning		
		W	Workshops		
		GBL	Game-Based Learning		
		LS	Library Session		
		PL	Peer Learning		
		RLE	Real-Life Experience		
		PER	Presentations		
		D-M	Demonstration on Model		
		PT	Practical		
		X-Ray	X-ray Identification		
		CD	Case Diagnosis		

		LRI	Lab Report Interpretation		
		DA	Drug Analysis		
		D	Demonstration		
		D-BED	Demonstration Bedside		
		DL	Demonstration Lab		
		DG	Demonstration Garden		
		FV	Field Visit		
		JC	Journal Club		
		Mnt	Mentoring		
		PAL	Peer Assisted Learning		
		C_L	Co Learning		
		DSN	Dissection		
		PSN	Prosection		